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Romances Of Industry—Asphalt

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AUGUST 1922

Volume XXIII
No. 1

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No. 1

IN THIS ISSUE

Cover illustration: Showing probably the greatest use for asphalt; laying down an asphalt covering over a cement base, on the highway between New York and Philadelphia. Page

ROMANCES OF INDUSTRY—ASPHALT - - - - - 7
By Clifford Spurrier Lee, Asphalt Association.

WHAT THE COAL STRIKE INVOLVES - - - - - 13
By Edward A. Lyman.

THE ISSUE IN THE RAILROAD STRIKE - - - - - 15
By John G. Walber, executive secretary, Bureau of Information, Eastern Railways.

THE MEANING OF THE CORONADO DECISION - - - - - 17
By James A. Emery, general counsel, National Association of Manufacturers.

THE STATE POLICE AS AN ASSET - - - - - 19
By Milton R. Palmer, editor of *The State Trooper*.

EDITORIALS - - - - - 24

LEST WE FORGET—HERRIN, ILL - - - - - 26

ANGLING FOR INDUSTRIAL WORKERS - - - - - 27
By Kenneth M. Coolbaugh, superintendent, Pennsylvania State Employment Service.

BITS OF NEWS ABOUT MEN IN INDUSTRY . - - - - - 30

BUSINESS CONDITIONS AS SEEN BY A BUSINESS MAN - - - - - 31
By Walter L. Todd, vice-president and general manager, Todd Protectograph Company.

GREAT PORTS OF THE NATION—NEW ORLEANS - - - - - 33
By Walter Parker, general manager, New Orleans Association of Commerce.

WORLD WIDE WIRELESS INFLUENCE - - - - - 39
By Edward J. Nally, president, Radio Corporation of America.

WORLD TRADE - - - - - 41

BUSINESS CONDITIONS IN MEXICO - - - - - 41

MERCHANDISING MARKS IN GREAT BRITAIN - - - - - 42

FOREIGN TRADE OPPORTUNITIES - - - - - 43

BRAZIL'S GREAT CENTENNIAL - - - - - 45

HOW MOROCCO LOOKS TO-DAY - - - - - 48

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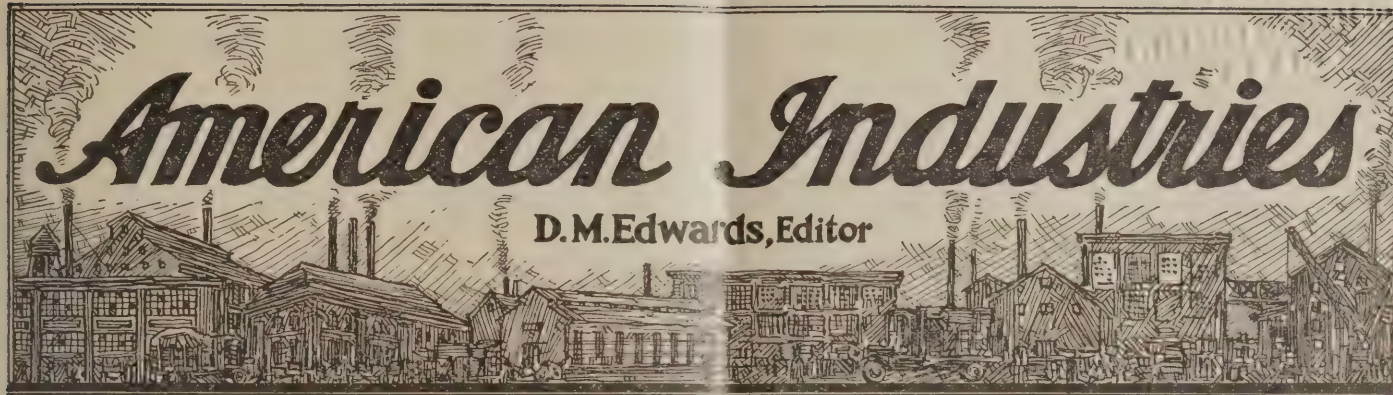
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D.M. Edwards, Editor

Vol. XXIII

AUGUST, 1922

No. 1

Romances Of Industry—Asphalt

From time of old Nebuchadnezzar down to the present day this natural product has played an unsung but very important rôle in advancement of civilization and particularly in the United States

Written especially for AMERICAN INDUSTRIES

By CLIFFORD SPURRIER LEE
Asphalt Association

IN ages past a Mesopotamian nomad may have slipped accidentally into the sticky edge of a pool of bitumen, where the black, gummy fluid bubbled to the surface from the depths of the earth. The stuff stuck to his feet. This experience, or something like it, must have preceded the early use of asphalt as an adhesive in many ways—as, for instance, sticking eyes into the sockets of the stone gods and other images that were worshipped at the time.

It is not much more difficult to imagine the introduction of asphalt as a waterproofing material. Possibly a wandering tribal image-maker, smeared with the earthy pitch and none too clean of habit, went home and wiped his hands on his tent. And perhaps after several such acts, he discovered that the tent did not leak where this strange sticky substance coated it. After long pondering the matter possibly he deliberately coated the whole surface and reveled

in his new found comfort. The inhabitants of Mesopotamia to-day coat their tents with this very substance. The canoes or dugouts of early days were made water-tight in the same way. Thus did the distinguished Babylonian navigator, Noah, caulk the seams of his Ark before he set out to ride the flood. Thus was coated the basket in which the infant Moses lay concealed in the bulrushes when the children of Israel were suffering under the bondage of Egypt about 1500 B. C.

"I provided a pole to paint with and all that was necessary. Six sar of bitumen I smeared on the outside. Three sar of bitumen I smeared on the inside." So, also, says Utnapishtim, the Babylonian counterpart of Noah, as reported on the Eleventh Tablet of Gilgames, dated 4000 B. C.

Wherefore asphalt cannot be called the product of modern science for here and elsewhere we have indisputable evidence of its ancient use as a water-proofing material. The substance was

used to considerable extent as a protection for the damp courses of buildings. The great towers of Babylon were protected from dampness for twelve stories by coatings of asphalt mixed with crushed rock.

Asphalt, or bitumen, as it was then called, was used also as mortar in those early days. Ruined walls now excavated, show positive evidence of having been cemented with this material. Nebuchadnezzar says he built Babylon "with burnt brick and bi-



On the Camden-Philadelphia Boulevard

tumen." The Bible, in describing the building of the Tower of Babel, says: "And they said to one another, 'Come, let us make brick and burn them thoroughly.' And they had brick for stone and bitumen had they for mortar." At other times in this era, asphalt was used as a filler for brick pavements, just as it is to-day.

Silos, cisterns and wells were coated with bitumen by the Egyptians, 3,000 years ago. Mummy cloths were also waterproofed by the application of the substance.

Almost as far back as our knowledge of ancient civilization extends authentic evidence exists that asphalt was well known by the human race for its useful and valuable properties. Its earliest recorded use was by the Sumerians, a people inhabiting the Euphrates valley prior to the ascendancy of the Babylonians. Some of the oldest relics unearthed by archaeologists, demonstrate that as early as 3000 B. C., asphalt was used by the Sumerians as a cementing medium or binder for attaching small objects or ornaments to sculptures, carvings and pottery. It was also mixed with clay to form a dense mastic which could be moulded or carved into various forms. Such a mastic cast in the form of an heraldic device excavated at Lagash near the mouth of the Euphrates, dates back to 2850 B. C.

Nearly a thousand years elapsed before the use of asphalt in highway construction apparently suggested itself. It was Nabopolassar, King of Babylon, who first used asphalt as a filler or mortar for brick pavements. His son, Nebuchadnezzar, continued this practice, as is proved by an inscription found on a brick taken from one of the streets. This inscription has been translated as follows:

"Nebuchadnezzar, King of Babylon, he who made Esaglia and Ezida glorious, son of Nabopolassar, King of Babylon. The streets of Babylon, the procession Street of Nabu and Marduk, my lords, which Nabopolassar, King of Babylon, the father who begot me, has made a road glistening with asphalt and burnt brick; I, the wise suppliant who fears their lordships, placed above the bitumen and burnt bricks, a mighty superstructure of shining dust, made them strong within with bitumen and burnt bricks as a high-lying road. Nabu and Marduk, when you traverse these streets in joy, may benefits for me rest upon your lips; life for distant days, and well-being for the body. Before you I will advance upon them. May I attain eternal age."

"Traverse these streets in joy." Do we appreciate our modern asphalt highways?

Nebuchadnezzar also used asphalt extensively as a mortar in the construction of brick walls and foundations which were subjected to water action and similar use was made of asphalt in the ancient city of Media. Thus long before the birth of Christ the value of asphalt for binding, moulding, preserving and waterproofing was recognized and utilized in and about the Mediterranean region, long termed "the cradle of humanity."

The ancients used asphalt with a prodigal hand and well they might, for an accessible and inexhaustible supply was close at hand. Herodotus, who lived about 50 B. C., traveling extensively and describing his experiences and observations very fully, tells us that clumps of bitumen floated down the Euphrates constantly, having become detached from the banks above. A good supply also came from the river Is, a short distance from Babylon. The Egyptian supply seems to have been obtained from traders who brought it from the Dead Sea.

Bituminous material was used to fill the interstices of a rock pavement by a Babylonian king about 700 B. C. It was also mixed with clay in the manufacture of pottery. There is a clay statue of King Manistusha in a European museum that is held together with asphalt. Alabaster clay casts bearing inscriptions and decorations were found cemented to walls with bitumen (the binding material in asphalt) by excavators at work among Babylonian ruins.

In the Western Hemisphere asphalt was also known and used in ancient times, by the Incas of Peru, who established a magnificent system of highways. It is stated that "some of the highways were paved with a substance not unlike bituminous macadam"—undoubtedly asphalt. Certainly natural deposits of asphalt were known to the most primitive peoples for they existed in many parts of the world and antedated the earliest known races of humanity. This is attested by the remains of prehistoric mammals which some of them contain.

One of the most interesting of all these deposits occurs at Los Angeles, California, just off Wilshire Boulevard and about eight miles from the center of the city. From this deposit the University of California has excavated entire skeletons of a great variety of prehistoric beasts. These animals, venturing upon the surface of the asphalt when it was soft, stuck fast, just as insects stick to fly paper. Gradually they sank below the surface, later to furnish excellent proof of both the cementing strength and preservative value of asphalt. The skeleton of an elephant, fifteen feet high, has been

taken from this deposit and bones of such animals as the mastodon, saber-toothed tiger, giant sloth, camel, horse, bison, lion, wolf and numerous species of birds also have been recovered from it.

The existence to this day of the sources of supply from which the ancient peoples procured their bitumen assures us that they really used the material now known to us, notwithstanding the great variety and diversity of names they had for the substance. The exact meaning and origin of the words "bitumen" and "asphalt" have always been somewhat obscure. In Genesis XL, 3, a Hebrew word occurs which designates as bitumen the cementing substances used in the Tower of Babel. In the Septuagint or Greek version of the Bible this word is translated "asphaltos" and in the Vulgate or Latin version, "bitumen." In the Bishops Bible of 1568 and in subsequent translations into English the word is given as "slime." In the Douay translation of 1600 it is "bitume," while in Luther's German Bible, it is given as "thon," the German word for clay. The word "asphaltum" is said to be derived from a Greek word meaning "I prevent slipping." According to some authorities the word "bitumen" is a corruption of the Latin "pix tumens" signifying "bubbling pitch," descriptive of the springs from which it was procured.

Asphalt once had considerable use as a toilet preparation. The early Roman prototypes of our stage heroines used it to darken their eyebrows.

Fortunately, or unfortunately, as you look at it, the barbarian hordes that swept over Europe after the fall of the Roman Empire blotted out the knowledge of this substance along with the knowledge of many other things, and, consequently, during the Middle Ages, asphalt was used very little for paving purposes. It was used to some extent as a building material but not as extensively as it had been previously.

During the Middle Ages, however, asphalt was used for a diversity of other things. Nervous and hysterical people carried it around in smelling bottles. It retained its beautifying qualities according to Foote, a well-known beau brummel of 1752, who writes in his "Taste," of: "The salutary application of the asphaltum pot." During this time it came to have attributed to it various pharmaceutical properties, being advanced by authorities as a sure cure for ringworm, boils, gout, epilepsy, blindness, toothache and colic. It was used in France to protect shrubbery from insects.

In 1600, Libarius, and in 1677, Moxon, published books on the mechanical trades in which they mentioned the

waterproofing and cementous qualities of bitumen. That its use was gaining in popular knowledge is evidenced by a reference in Shakespear's play "Pericles" in which there is a passage: "We have a chest beneath the hatches, caulked and bitumened ready." Also in Milton's "Paradise Lost" we read: "Blazing cressets fed with naphtha and asphalts," and, "The plain, whereon a black bituminous gurge boils out from underground—the mouth of Hell."

In 1712, a doctor, Eyrinis, found with the assistance of a German workman, an asphaltic rock at Val de Travers, in the Swiss Jura. Familiar with the writings of Herodotus and Pliny on the use of this material, he applied to the government for a concession and, receiving it, mined and sold the substance as a waterproofing material. For some reason, in 1735, he transferred his activities to the Rhone valley in Alsace. In various other places, at this time, asphaltic deposits were worked in a desultory fashion.

The asphalt mined and used by the ancients was probably similar to the substance now found, composed of 39 per cent bitumen, 29 per cent water and gas, 6 per cent of organic or vegetable matter and 26 per cent mineral matter. When refined, as it is to-day before being used, it is heated and the water and the gas and volatile oils are driven off, leaving the material approximately 58 per cent pure. There is no evidence, however, of any refining having been attempted in the olden days, although the rock asphalt mined by Eyrinis and his contemporaries, a sandstone or limestone rock containing approximately 9 per cent asphalt, was heated in order that the bitumen might be extracted.



There are few highways like this now

The largest and best known deposits of natural asphalt on the Western continent are the lakes at Trinidad and Bermudez, Venezuela. The Trinidad deposit is said to have been discovered first by Christopher Columbus, who, on his third voyage to America, "careened his galleons and caulked their storm-racked seams with this natural waterproofing material." Sir Walter Raleigh, who made himself famous in history by paving the muddy palace path with his velvet cape so that the dainty feet of Queen Elizabeth would not be soiled, also found this lake, and wrote: "I found it most excellent goode and meltheth not in the sun as the pitch of Norway."

Although enough asphalt has been

taken from the 114 acre lake at Trinidad to pave 70,000,000 square yards of roads and streets in the United States, the surface has been lowered scarcely more than two feet, since the supply is constantly replenished from below. It is this phenomena that has led scientists to suspect that asphalt, in its primary state, is an oil. It attains its more solid state after the volatization of some of its constituents and after soaking into clay or other mineral matter. Experiments with various oils have led to a point now where sixty-five per cent of the present day supply is refined from asphaltic petroleum, found principally in Mexico, Texas and California.

Petroleum asphalt is refined from crude petroleum in 50,000 gallon cylindrical iron stills, set horizontally and heated from below. They contain a number of perforated pipes through which steam is forced during process of refining. This imitates the natural process while accelerating it, and at the same time the volatile oils, having commercial value, are preserved. The temperature of the oil in the still is kept below 600 or 700 degrees Fahrenheit, and this, coupled with the steam that permeates the oil prevents any harm being done to the asphalt. As distillation progresses, the material becomes more and more viscous until a semi-solid residue is produced. Here no fluxing or addition of oil is necessary, as is needed after refining the natural asphalt which becomes comparatively hard and must be reduced to a workable consistency.

In the manufacture of asphalt fillers for brick pavements when it is ordinarily desired to use them without admixture with sand, it is customary to



An asphalt lake at Trinidad

blow air through the melted asphalt at a certain stage in the process in order to produce a material with a higher melting point than would have been produced by steam distillation.

Refined petroleum asphalt is the purest of all asphalts as it is practically 100 per cent bitumen. Native asphalts, however, are seldom pure bitumen as they are mixed with foreign substances such as clay and mineral matter. The suitability of asphalt for paving as well as some other possible uses, depends on the relative proportions of fine and coarse particles which increase the stability of the material. Natural asphalt contains matter in colloidal form and is in a finely divided condition.

The first asphaltic road on record built in comparatively modern times was constructed of crushed natural bituminous rock in 1852. It was compacted, after the fashion of modern macadam construction and it extended from Paris to Perpignan, France. In 1854, a street in Paris was paved with rock asphalt to be followed in 1858 by another pavement constructed by crushing and beating the rock asphalt before paving.

Threadneedle Street, London, was paved with native asphalt in 1869. In 1870, the first American experimental section was constructed with native asphalt in Newark, N. J., followed by the successful use of native asphalt in several California pavements. In 1871, pavements were laid in Washington, D. C., after a favorable report by a special commission appointed to investigate. Construction in Washington was in line with methods covered by the Abbot patent and consisting of a combination of roofing pitch and creosote used as a binding material for crushed rock. These pavements lasted for 15 or more years and their success was followed by an adoption of the material for pavement purposes all over this country. The Washington pavements are still in use.

The development of asphaltic fire resistant roofing is scarcely less romantic than that of the paving industry. Beginning with its use as a tent coating by the nomadic peoples of the Balkans, it has developed until the annual production is now sufficient to cover 2,500,000 dwellings at an average of 10 squares to the roof.

Tar-impregnated felt-roofing originated in 1790 in Scandinavia, through experiments by Admiral Faxe. His method was to lay a felt covering on the roof, fastened by short, large-headed nails and to paint the felt with hot wood-tar. The partial penetration thus achieved, however, did not make a durable roofing. A newspaper published in Leipsic in 1791 credits Michael Kag, of Muhldorf, Barvaria, with having

produced an improved form of prepared roofing by saturating roofing-paper or felt with varnish and coating the surface with a mineral powder. This product was also recommended as a substitute for leather in the soles of shoes. Doctor Gilly, of the German Department of Public Works, advocated a system similar to that of Admiral Faxe. A lot of work was done along this line in Germany but the Napoleonic wars swept away all trace of its development.

The use of asphaltic roofing in the United States dates from 1845 when a mixture of asphaltic tar and gravel was used as a roof covering. About 1850 asphalt-impregnated felt sheets came into use and since then the development has been so rapid, that to-day several hundred millions of capital are involved in the production of asphalt roll roofings and shingles.

Asphalt roofings are composed of one or more layers of a woven or felted fabric saturated or coated with a bituminous composition. These fabrics and bituminous mixtures are assembled in numerous combinations of varied texture, thickness and color.

The felted fabrics generally are formed of rag or asbestos fibres in a machine similar to that used for manufacturing paper. If rags are employed, they are first run through a series of knives which shred them into small fragments. They are then put into the "Beaters" where they are ground into a pulp and mixed with water. When all the lumps have been broken up, usually after about three hours beating, the pulp is screened to remove all particles of foreign matter. The pulp is then run on the felt machine. This machine consists first of two cylinders covered with a fine wire mesh which revolve partially immersed in the tank containing the rag fibres suspended in water. The wire mesh picks up a layer of fibres and the cylinder carries it around and compresses it into an even layer. An endless cloth carries the layer of paper through several rollers where it is subjected to increasing pressure until it is strong enough to hold together.

The felt is next passed over a series of steam rolls. In modern machines there are from 55 to 65 of these rollers which expel the remaining moisture. The sheet is given a smooth finish, is next passed through a tank containing the asphaltic compound at about 385° Fahrenheit and is thoroughly saturated. It may be given two or three soakings according to the quality desired. It may also receive a coating of broken stone or slate to give it a more attractive appearance and increase its wearing qualities.

Asphalt, varying in chemical nature

to a slight degree, and known by various trade terms, is both mined and refined in different parts of the United States. Each variety has a particular adaptability to some use. Gilsonite is used in the manufacture of paint, japans, varnish, waterproofing and electrical insulating materials. Refined wurtzilite is utilized principally in the manufacture of insulating composition, marine and iron paints, acid-resisting compounds and other protective coatings, including prepared flooring. Grahmite is used for roofing, flooring, varnish and for brick and stone-block filler in street paving. Although these products have been marketed for only a comparatively few years in the United States, since they are elastic, fire-resistant, antiseptic, acid resistant and moisture-proof, they are in general demand among contractors and engineers and their use is rapidly increasing. When combined with rubber and vulcanized asphalt it is able to resist extreme temperature changes. Ozokerite is utilized in the manufacture of leather polish, sealing wax, electrotypers' wax, candles, electric insulators, carbon paper and ink. Ichthyol, an asphaltic compound containing fossil fish, is used by physicians as a curative for skin diseases.

In addition to paving and roofing there are a large number of industries, which in the aggregate consume about 245,000 tons of asphalt. A considerable amount of this is used for waterproofing and flooring and lesser amounts for sheathing and insulating purposes. Asphalt also finds its way into the manufacture of considerable quantities of rubber goods, paints, varnishes, enamels and japans and such specialties as anti-acid compounds, pipe dips, bituminous putty or cement, emulsions, moulding compositions, electrical insulating products, sealing compounds for storage batteries, wall boards and floor coverings.

In most finished products asphalt is used primarily as a binder or coating for the body of the structure and constitutes but a fraction of the total weight of such products. Its use is therefore dependent upon the consumption of large quantities of other materials the production of which represents industries dependent to a considerable extent upon the asphalt industry. Thus in pavement construction, considering only that portion of the pavement which is bound together with asphalt, an average of about 8 per cent of asphalt is used to bind 92 per cent of mineral aggregate. This represents an annual consumption of over 9,500,000 tons of broken stone, gravel and sand in pavement construction including nearly 450,000 tons of pulverized limestone or Portland cement

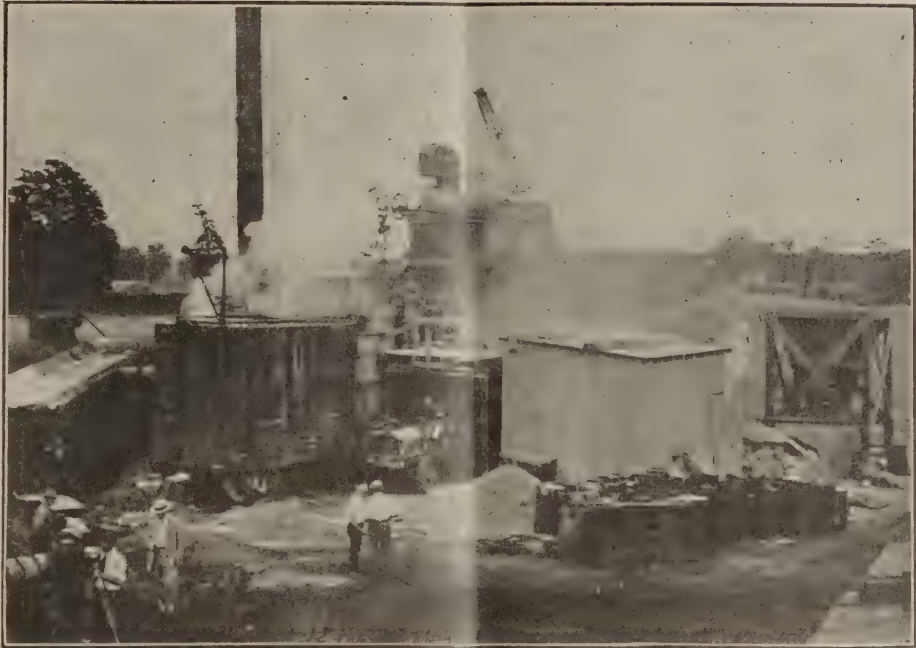
filler. The manufacture of asphalt roofings probably consumes in the neighborhood of 200,000 tons of felt and similar fabrics and 300,000 tons of mineral surfacing such as talc, mica, silica, sand and crushed rock.

Without considering the various materials used in asphalt specialties a rough approximation of material annually consumed in the manufacture of asphalt products including pavements would be as follows:

	Tons.
Paving asphalts and fluxes..	761,000
Roofing asphalt and fluxes..	625,000
Asphalt and fluxes for specialties	245,000
<hr/>	
Total asphalt, not including road oils	1,631,000
Sand, gravel, crushed rock and dust for paving.....	9,950,000
Mineral surfacing for roofing	300,000
Felted and other fabric for roofing	200,000
<hr/>	
Grand Total	12,081,000

Latest available statistics show the effect of twelve years' production of asphalt shingles and roll roofings in conserving the red cedar timber supply. While asphalt shingles and roll roofing advanced from 8,200,000 squares in 1918 to 30,600,000 in 1919 the sale of cedar shingles slumped from 8,700,000 to 7,400,000. The rapid growth in the use of asphalt shingles and roll roofings is due to their fire-resistant and weatherproof qualities and their great durability and comparative low price.

Phenomenal is the only word that adequately describes the growth of the petroleum asphalt industry in this country. Petroleum is the source of all asphalts and the old natural process consisted in the slow evaporation over ages of time of the volatile oils. American genius now abridges the process and produces at the refineries an asphalt 99.5 pure in bitumen, the essential constituent. Prior to 1902 the United States was almost entirely dependent upon importations of asphalt to supply its paving needs. No appreciable amount of asphalt was used in



A portable asphalt preparation plant

this country until 1883 when about 35,000 tons were imported mainly from the island of Trinidad.

In 1892 the United States began to import an additional supply from Bermuda, Venezuela, and from Cuba. These importations were also inadequate, however, and the producers turned elsewhere. By 1902 petroleum asphalt began to appear on the American market, 20,000 tons being used that year. By 1913 more than 500,000 tons of the petroleum product were being used annually in the United States, 100,000 tons being manufactured from imported Mexican crude oil and 400,000 tons from domestic petroleum. In 1913 the importations reached 230,000 tons. Since 1913 the manufacture of petroleum asphalt in America has increased by leaps and bounds.

The quantity of native asphalt and native bitumens sold in the United States in 1920, according to the United States Geological Survey, was 198,497 tons, valued at \$1,213,908. The sales of manufactured asphalt obtained from domestic petroleum amounted to 700,496 tons valued at \$11,985,457. The sales of asphalt manufactured in the United States from Mexican petroleum in 1920 amounted to 1,045,779 tons, valued at \$14,272,862. The total for petroleum asphalts was 1,746,275 tons, an increase over 1919 of 35 per cent in quantity.

The total asphalt consumption in the United States, including that made from Mexican oils, that made from domestic petroleum and that known as "native" asphalt was 2,023,665 tons in 1920. In 1915 the total consumption amounted to 1,225,447 tons or little

more than half the 1920 consumption. In the production of asphalt from domestic petroleum in 1920, California, with nine operators, ranked first; Texas, with four operators, ranked second, and Indiana, with three operators, ranked third, both in quantity and value. These three states reported 82 per cent of the total quantity and 80 per cent of the total value of production in the United States. The increase in the quantity of asphalt refined in

the United States from Mexican petroleum was almost five times as great from 1919 to 1920 as from 1918 to 1919.

An expenditure of nearly \$518,000,000 has been approved by the United States Bureau of Public Roads during the five years 1917 to 1921 inclusive for the construction of 28,500 miles of Federal aid highways. The new Federal Aid law provides \$190,000,000 more of government funds for the next three years. In the construction of the types higher than waterbound macadam the keenest race under Federal Aid has been between the flexible pavements, represented principally by the asphaltic types, and those in the rigid class, represented principally by the various types of portland cement concrete. Starting with 1917 the bituminous types (mostly asphalt) and the portland cement concrete types each represented about 10 per cent of the total mileage paved in that year, the exact mileage being 32.3 for the bituminous types and 33.3 for concrete. During the next year portland cement concrete remained practically constant at 10 per cent while the bituminous types dropped to 6 per cent. In 1919 portland cement concrete made its greatest gain, reaching a total of 27 per cent, while the bituminous types reached a total of 9 per cent. The year 1919, however, proved to be the crest of concrete ascendancy for in 1920 concrete dropped sharply to 18 per cent. In 1921 it dropped to 11 per cent. The bituminous types, however, fell off only slightly in 1920 when they comprised 7 per cent of the total. In 1921 they had an actual rise to 9 per cent in contrast with the sharp falling off in the

use of portland cement concrete. The net change from the close of 1919 to the close of 1921 has been a reduction in the percentage of concrete from the peak of 27 per cent to 11 per cent, or a loss of about 60 per cent, while the bituminous types finished the year 1921 with exactly the same percentage as in 1919 thus showing no net loss.

It is an almost incomprehensible fact that in building our state and county highway systems more weight has not been attached to paving practice in our cities where many of the problems of meeting heavy and varied traffic conditions were successfully solved before such conditions made their appearance on country and suburban highways. In our cities the original waterbound macadam and gravel roads have for the most part given way to higher types of construction until to-day they constitute an average of only about 26 per cent of the total yardage. The three most widely used city types are asphalt, brick and stone block. If we eliminate the waterbound pavements we find that of the higher city types asphalt constitutes about 55 per cent, brick about 19 per cent and stone block about 14 per cent, giving a total of 88 per cent for these three types.

In connection with the preponderance of asphalt pavements the present trend of paving practice in the construction of modern brick and stone block pavements is of considerable significance, as it recognizes a principle which just now is attracting a great deal of attention on the part of our highway engineers. I refer to the use of a flexible joint-filler for brick and block pavements as against the rigid grout fillers formerly so popular. Such cities as New York and Philadelphia are now using asphalt fillers for heavy traffic streets paved with stone block and both the National Paving Brick Manufacturers' Association and the National Association of Stone Block Manufacturers are preferentially recommending asphalt as a filler for their respective types of pavements. The reason for this lies in the fact that absolute rigidity in a pavement structure is not a desirable characteristic. Service results and comprehensive field tests conducted by the United States Bureau of Public Roads have demonstrated that the brick or block pavement with a flexible filler is more resistant to traffic than with a rigid filler. A certain degree of flexibility is highly advantageous in meeting the heavy impact of modern traffic. Such flexibility is an inherent characteristic of bituminous pavements and is imparted to brick and block pavements when asphalt is used as a joint filler.

While in certain sections of the country the satisfactory paving expe-

rience of our cities appears to have been overlooked, it is a fact that the flexible and semi-flexible types of construction predominate in our country roads and if we consider the total mileage of state, county and municipal highways higher than gravel and macadam considerably more than 50 per cent may be so classed. By reducing all yardage to a basis of 16 feet width, we estimate that at least 45 per cent of the mileage of the higher types of pavements are of the hot-mixed asphalt types. The latest available information indicates that last year the total area of asphalt pavements constructed approximated 68,000,000 square yards, which was greater than for any other type. Most of the stone block pavements constructed that year were filled with bituminous material and about 60 per cent of the brick pavements were similarly filled.

That American cities are making tremendous strides in asphalt street paving is indicated in reports from city engineers to The Asphalt Association which show that over thirty million square yards, or 1,750 miles of asphaltic pavement, thirty feet wide, were laid on city streets in 1921. Reports from state highway departments indi-

cate that twenty-three million square yards were laid on the state highways while the area laid in counties and other districts brought the total to 65,000,000 square yards or 3,690 miles of asphalt pavement 30 feet wide. This was an increase of 35 per cent over the yardage in 1920 and is sufficient to build an asphalt road thirty feet wide from Augusta, Me., to San Francisco, Cal., and farther.

Such is the romance of asphalt. With it Hannibal concocted his famous "Grecian Fire." Xenophon used it for mortar and Cleopatra used it to strengthen the royal arch of her eyebrows and enhance her vamping beauties. Its wide application not only to street and road paving and shingle and roll roofing as well to the many specialties in which it is used has brought about its highest development in the United States, where its varied use now surpasses that of any other place or period in history. There is no uncertainty about its value. The source of supply is practically unlimited and there is every indication that centuries hence, as in centuries past, asphalt, in its ready adaptability to human needs will still justify the phrase "Proved Through the Ages."

Electric Road Standards

A STANDARDIZATION program of considerable importance to the iron and steel, lumber, electrical, construction, chemical, railway and railway supply industries is presented in the submission by the American Electric Railway Association of 13 standards for approval by the American Engineering Standards Committee.

The specifications submitted to the A. E. S. C. follow:

For approval as American standards: Nine-inch girder grooved rail; seven-inch girder grooved rail; nine-inch girder guard rail; seven-inch girder guard rail; joint plates for seven-inch girder grooved and girder guard rails; joint plates for nine-inch girder grooved and girder guard rails; specification for galvanizing or sherardizing on iron and steel.

For approval as tentative American standards: Seven-inch 80 pound plain girder rail; seven-inch 91 pound plain girder rail.

For approval as recommended American practice: Specification for materials for use in the manufacture of special track work; specification for 600-volt direct current overhead trolley construction.

Four special committees will be appointed by the American Engineering Standards Committee to determine whether the A. E. R. A. specifications are the standards which should be adopted for universal use in the United States; the committee's decision will, of course, be predicated on its finding as to the desirability of national standardization of the products enumerated. The principal organizations concerned will be asked to name representatives on these special committees.

One special committee will be asked to conduct the investigation with respect to the acceptability to the industry of the specification for 600-volt direct current overhead trolley construction; another committee will conduct the investigation concerning the specifications for wood poles and tubular poles; a separate committee will study the specifications for galvanizing or sherardizing on iron and steel; and a fourth committee will go into the subjects of the remaining nine related specifications. The findings of these committees will be reported to the American Engineering Standards Committee as soon as the investigations are completed.

What The Coal Strike Involves

Anthracite miners are demanding an increase of twenty per cent over the increase granted by President Wilson's commission in 1920; while operators point to decreased market due to high costs

Written especially for AMERICAN INDUSTRIES

By EDWARD A. LYMAN

ONE of the most remarkable things about the coal strike, now in its fourth month, is the apparent lack of concern until recently manifested by the public in what has developed into the greatest labor disturbance in the history of the industry.

At the outset there was possibly some reason for this attitude. We had passed through two comparatively mild winters in succession; the suspension of mining operations was ordered by officials of the United Mine Workers of America at a time when industrial operations were inactive and heating plants were being shut down for the summer; it was known that there were large stocks of coal in storage and officials of the Federal Government assured us that there was no need to worry. Anyway, winter was a long way off, the operators were trying to bring down the cost of coal at the mines by means of a reduction of wages and, probably, most of us believed that it was just as well to let matters take their own course on the theory that conditions could not be much worse from the consumers' point of view.

The situation has changed. It is doubtful if anybody, least of all the United Mine Workers, expected the suspension to last as long as it has. Storage stocks of anthracite have dwindled to almost nothing and the reserve of bituminous coal is approaching the danger point. If production does not start in the near future, a shortage of coal this winter is probable.

In any consideration of the coal situation there should be drawn a sharp distinction between the anthracite and bituminous branches of the industry. The two are utterly unlike, not only in character, methods of production, price and use, but in tonnage, location, market and organization. Also there is a wide difference in the demands of the miners of the two kinds of coal and in the manner the suspension has been handled.

There are about 160,000 anthracite

miners. They are thoroughly organized and the suspension of operations in the anthracite region, which comprises less than 500 square miles in the eastern part of Pennsylvania, is 100 per cent effective. The hard coal miners are demanding an increase of 20 per cent in wages over the increase granted them in 1920 by President Wilson's Anthracite Coal Commission. There are other demands, eighteen of them, which, taken as a whole, would increase the cost of producing the domestic sizes of anthracite more than \$3 a ton, according to figures prepared by the anthracite operators.

As against these demands, the operators point to the failing market for hard coal, due to the high price, and state that if the industry is to continue to give full-time employment to miners, the product must be available at prices which the public can afford to pay. They therefore suggest an average wage reduction of 21 per cent, pointing out that the miners would be able to earn more at the reduced rate with full-time operation, than they would at the higher scale, or even at the rate fixed in the 1920 agreement with the partial operation which the operators' marketing experience tells them will be inevitable unless the mine price can be materially reduced.

Representatives of the anthracite operators and miners were in almost continuous session in New York City from March 15 to June 14, when it became apparent that no agreement on wages could be reached by any means yet proposed. The negotiations ended when the miners rejected a proposal by the operators that the entire matter be referred to a commission to be appointed by the President of the United States, which should have full power to conduct a searching inquiry into all matters affecting wages and conditions of employment.

Since that time public officials and the press have devoted more attention to the coal situation as a whole and President Harding has proposed that the entire matter be referred to a com-

mission for adjustment and that, in the meantime, the miners go back to work under the former wage scale at least until August 10, by which time the commission would, the President hoped, be able to figure out some sort of wage readjustment to be effective until March 31, 1923, the end of what is known as the coal year.

The plan as proposed was rejected by the mine workers and some of the bituminous coal operators. The anthracite producers, however, being already committed to arbitration, accepted the plan in principle, merely asking that the hard coal industry, being entirely different in character and conditions from the soft coal industry, should have its problems solved by a separate commission. And there the matter rests at this time, this article being written on July 18.

In order fully to understand the anthracite situation, it should be borne in mind that hard coal production involves not only actual mining operations, but a very complicated manufacturing process in preparing the coal for market. It is this which adds materially to the cost of the coal at the mines, for while most of the bituminous coal is shipped from the mines on a "run-of-mine" basis, anthracite has to be put through an elaborate and costly plant known as a breaker, where it is cleaned and separated into the various sizes in which it is sold to consumers. Consequently there are employed at an anthracite colliery more men above ground and about the breaker than are engaged in the actual mining of the coal.

The annual commercial production of fresh-mined anthracite, as differentiated from the coal recovered from culm banks or dredged from river beds, is about 70,000,000 gross tons of 2,240 pounds each. Of this tonnage about 30 per cent is composed of the so-called steam sizes which are not suited to domestic consumption. The record of the last nine years shows an almost constantly decreasing production, except during the war years 1917 and 1918, with constantly

increasing labor costs. In 1913, the labor cost of producing a gross ton of commercial fresh-mined anthracite was \$1.595. In 1921, according to a recent calculation by Samuel D. Warriner, president of the Lehigh Coal & Navigation Company, and chairman of the General Committee of Anthracite Operators, the labor cost per ton was about \$4.11.

In order to arrive at the total cost of production, however, there must be added to the labor cost, according to Mr. Warriner's calculation, \$1.05 per gross ton for supplies and fifty-eight cents for overhead, making the total production cost of a gross ton, exclusive of Federal taxes, \$5.74. This production cost applies alike to all sizes of anthracite and is a fair average for the entire region where costs vary considerably according to the conformation of the coal seams.

It must be realized, however, that 11 per cent of the total output consists of pea coal which sells at little, if any, above the cost of production, and, as has been stated, approximately 30 per cent is made up of the steam sizes which sell in competition with bituminous coal at prices which do not cover even the labor cost. These small sizes are not deliberately produced by the anthracite collieries. They are the result of the mechanical operation of the breaker in preparing the coal for market. They bear so important a relation to the entire output, however, that they cannot be ignored in marketing, but must be sold at whatever prices they will bring.

As a consequence, the average realization by the producer of anthracite is about \$6.28 a gross ton at the mines. (The U. S. Geological Survey gives the average realization for 1921 as \$6.23 for commercial fresh-mined coal.) This would seem to leave an average margin between production cost and mine price of fifty-four cents per ton. From this, however, must be deducted such summer and trade discounts as have been allowed and the sums paid to the Federal Government for taxes. These vary widely, but it is believed that during the last two years, the operators' return on investment has ranged from thirty-five to forty cents a ton.

When it is considered that the average investment in anthracite properties is from \$8 to \$8.50 per ton of annual output, it will be appreciated that this average return of not more than 5 per cent is not excessive, especially when the hazardous character of the business is taken into account.

In view of all this, the operators are face to face with the necessity of reducing costs to a point which will permit them to pay fair wages, sell their coal at a price which will insure

a normal demand and full-time operation and at the same time yield a profit which will attract to the industry the capital necessary to continue its development.

As labor is the greatest item entering into the cost of production, it is manifest that this is the item which must be trimmed, especially as coal mine wages are the only wages in a basic industry which has not yet responded to the general deflation. The 1920 scale on which the mines operated until the suspension, was based on the then cost of living. That it was a saving as well as a living wage was demonstrated by the general prosperity of the anthracite region and by the savings bank reports.

It was brought out by the anthracite operators in course of the wage negotiations, that in 1921, the average annual earnings of all men coming within the terms of the 1920 agreement who worked in each pay period of that year exceeded \$1,800, a figure equaled in no other basic industry. It was also brought out that anthracite wages showed an average increase in actual weekly earnings of 152 per cent above the basic 1914 period, against an increase in the cost of living as of March 15, 1922, of only 54.7 per cent.

The operators also pointed to the fact that since July, 1920 when the cost of living reached its peak, there has been a reduction of 24.4 per cent, according to the figures of the National Industrial Conference Board and of 22.9 per cent, according to the United States Bureau of Labor Statistics. As against this, the operators offered their proposal of a 21 per cent reduction in wages, calling attention to the fact that the great majority of consumers of domestic anthracite coal were themselves wage earners who had already taken reductions in wages.

In 1920, according to the report of the Pennsylvania Department of Internal Affairs, the pay rolls of the anthracite companies amounted to \$237,302,900 and the pay roll for 1921 to \$283,961,300, the total for the two years being \$521,264,200.

These pay rolls, of course, included the increases of 17.4 per cent granted by the Anthracite Coal Commission of 1920, except that this increase did not apply to the first three months of the calendar year 1920, but as it did apply to the first three months of 1922, we can consider that these offset each other.

If there had been no increase in the two years' pay rolls, the total would have amounted to \$444,100,000, so that the actual increase in money due to the 17.4 per cent increase was \$77,164,000.

In 1921, according to the U. S. Geological Survey, the average time worked in the anthracite region, including washeries and dredges, was 271 days. This means that the daily pay roll in that year amounted to \$1,047,827. On the basis of the offer of the operators to the miners the average daily pay roll would have been \$866,000.

Up to July 15 the miners had lost 89 working days. At the rate of \$866,000 per day, this amounts to \$77,074,000, or almost the exact amount of gain that the miners obtained by the award of the Anthracite Coal Commission in 1920.

The plain fact is, as a survey of the anthracite region shows unmistakably, that the suspension is losing its popularity with the miners. At the outset it was regarded somewhat in the light of a vacation earned by a long period of steady employment. It is doubtful if any but the more radical anthracite miners believed that wages would be increased, but the men were told by their officials that all that was necessary was to stick to the suspension in order to win their demands. They have stuck and there has been practically no disorder, but they are getting dreadfully tired of sticking; in fact at least 75 per cent of them would be willing to take a decrease and return to work if they were not deterred by the radical element and union politics.

For the union political element enters very largely into the situation in both the anthracite and bituminous branches of the industry. The union leaders know they must take a decrease and they are using every means in their power to delay the time when this must be admitted to their followers. They are opposed to arbitration because as a matter of simple economics a wage reduction would be certain to follow an investigation. They know, too, that unless the non-union bituminous mines should be included in the arbitration, an award of even the present scale of wages would avail them nothing, for the non-union bituminous mines, already operating on the 1917 scale of wages, would undersell the union mines to an extent which would nullify the effect of an award of the 1920 scale by shortening the working time.

What the miners' officials are after is to have the Government take over the coal mines, anthracite and bituminous, and operate them. They are committed to that by their constitution. Their idea is that, with private ownership eliminated or at least minimized, they would be able, by sheer force, to compel the Government to pay them high wages, sell the coal at low prices and provide a sub-

sider to take care of the difference. That the ultimate cost to the people, of whom they are a part, would be greater even than it is at present does not, apparently, enter into their economics.

As this article is being completed, the President has "invited" the bituminous operators to return home and operate their properties. There is no interpretation of this invitation, but the presumption is that the Government would furnish protection for miners who desired to work. This is not practical. There are not enough non-union miners to man all the mines and inexperienced labor cannot mine

coal. Some states have laws requiring coal miners to pass an examination before they can obtain a job and the examining boards are composed entirely of members of the United Mine Workers. In the anthracite mines a man must have had two years' experience before he can obtain a miner's certificate.

There is only one method by which the coal industry can be stabilized and the constantly recurring labor disturbances minimized. That is by the incorporation of the United Mine Workers of America and the establishment of a Government board or commission having powers similar to

those of the Railroad Labor Board over the railroads. If such a plan be adopted it should be only after extremely careful and capable legislation. But with the bituminous industry greatly over-developed and overmanned, with the anthracite branch occupying the position of an industry within an industry and with the United Mine Workers of America, with its membership of 600,000 or more, the most powerful single labor unit in the world, an unincorporated and therefore legally irresponsible organization able under present conditions to freeze or starve the country, there seems no other way out.

The Issue In The Railway Strike

The outstanding consideration in the nation-wide disturbance is whether industrial disputes shall be determined by orderly process or by a resort to force and disregard of all the laws

Written especially for AMERICAN INDUSTRIES

By JOHN G. WALBER

Executive Secretary, Bureau of Information, Eastern Railways

STANDING out above all other issues involved in the nation-wide railroad strike ordered by the leader of the Federated Shop-crafts to take effect July 1st, is this:

Shall industrial disputes be determined by orderly process or by a resort to force?

The ostensible reasons for the strike were:

1. The reduction of wages effective July 1st;
2. Modification of rules and working conditions;
3. Contracting out of shop work by about 20 out of 201 of the Class I railroads of the United States.

As to the first, these reductions had been decided upon by the Labor Board after an exhaustive examination extending over many months, in which all parties had full hearing on any reasonable argument that could be brought forth.

Questions of rules and working conditions were similarly decided.

As to the third point, practically all railroads had signified to the Labor Board their willingness to discontinue the practice, so that it is not an issue.

No sooner had the decisions of the Labor Board been completed and made public than there began a series of incidents making clear that the ostensible reasons for the strike were not the real reasons and that out of this situation must come an answer to the question stated above as the real issue in this strike.

In a public statement made by the Chairman of the Railroad Labor Board on July 7th, the same thought was put into the following words:

"The shop-crafts have been fairly heard before the Labor Board. They have appealed from the sober conservative judgment of this Board to the strike, with all its inevitable un-American subversion of law and order.

"For the Labor Board to yield to measures of this kind would be an outrage upon public decency and would hasten the enthronement of anarchy in this country."

In short, the question is not the adequacy or inadequacy of the new wage scale; it is not the justice or injustice of rules or working conditions; it is not the propriety of contracting out of shop work. All these questions had been determined by orderly process by an agency of the Government set up for the express purpose of determining such questions and thus to preserve industrial peace. Any new conditions can be similarly determined, and the Railroad Labor Board declared that it will gladly undertake such hearings and expedite their progress as much as possible.

On June 27th the leader of the shop-crafts sent by telegraph an ultimatum to the Association of Railway Executives declaring in effect, that unless the executives surrender every point at issue and disregard the decision of the Labor Board the men

would be ordered to strike. As a matter of fact the strike order was issued without the executives having an opportunity to consider a reply to this telegraphic ultimatum. But in the reply to it the executives took this ground, upon which they still stand:

"If the just authority of the Government is to be successfully defied and the Government is to be rendered helpless to protect its citizens in their peaceful and lawful pursuits, if patriotic and lawful obedience to Government authority is to be denied, the act of the responsibility must be yours, it shall not be ours."

It will be recalled that, acting under powers with which they were vested by the Transportation Act, the Labor Board invited the representatives of managements to a conference on June 30th. The executives accepted this invitation. The leader of the Federated Shop-crafts did not accept it.

Some days later the Chairman of the Labor Board, as an individual, not in his official capacity, invited the managements to another conference of the representatives of the employees then on strike.

The circumstances surrounding the proposed second conference were different from the proposed first conference in two important particulars: The proposed first conference was called by the Labor Board in its official capacity, whereas the second was suggested by Mr. Hooper as an individual. The first conference was

before the strike, when the employees were still under the jurisdiction of the Labor Board; the second conference was after the strike when, according to the declaration of the Board itself, the men had removed themselves from the employ of the railroads and, therefore, from the jurisdiction of the Labor Board.

It was a matter of common report that the strike leaders' response to Chairman Hooper's invitation laid down conditions precedent amounting to the concession of every important demand made by the unions. The plain purpose was under threat of a strike, to substitute for the decisions of the Labor Board not only demands which the Labor Board found unjustified, but in addition two new demands not covered in the strike ballots:

1. The setting up of a National Adjustment Board to settle disputed points on a national rather than on a local basis. The organizations are now resorting to extremes in order to preserve what they temporarily obtained under Federal control, namely, a national consideration of all problems regardless of local conditions of any sort. In this way only is there a reason for the continued existence and functioning of their organizations as national bodies.

2. The withdrawal or dismissal of any suits growing out of the strike, such as injunctions looking toward the preservation of peace.

Since that time some prominence has been given to the question of seniority, and wide mistaken publicity has been given to the thought that if the strikers could be restored to their positions with seniority rights unimpaired, that peace could be speedily obtained.

The truth of the matter is that the question of seniority is of relatively slight importance for no idea of peace has been brought forward by the leaders of the strikers in relation to seniority, excepting on the condition that all other demands will be granted in addition to the restoration of seniority.

As to this question of seniority the railroads stand for a square deal for the men who remained in the service from a sense of loyalty and those who entered the service since the strike, both of which groups are endeavoring to keep commerce uninterrupted, as opposed to the former employees who left the service with deliberate attempt to do everything in their power to stifle the transportation service of the country.

The truth of the matter is that the various questions in this strike are extremely complex and the importance of various problems varies over a wide range in the various parts of the

country and on different railroad systems. It therefore cannot be dogmatically asserted anywhere that this or that is the main question, or that this or that question being solved the strike would be ended.

For the railroads to enter into a conference outside of the jurisdiction of the Labor Board would be to disregard utterly the methods of establishing wages and working conditions set up by the Transportation Act. They were unable to accept the invitation.

It would lend countenance to an appeal to force to overthrow a decision of a Government agency and would thus encourage all groups of employees to believe that notwithstanding that a decision had been arrived at upon the basis of reason, it could, if unsatisfactory, be revised upward on a basis of force. The issue was whether a decision of a Government agency attained by orderly process should be compromised or bargained away under conditions amounting to duress.

The railroads of the United States are sincerely desirous of peace and prosperity. They will neglect no step which may be taken with propriety to that end, with due regard to orderly procedure under the Transportation Act.

As much was said in the letter which the Chairman of Regional Conference Committees, representing railroad managements in various sections of the country, addressed to Gov. Hooper, in response to his invitation, when these words were used:

"We have no reason to doubt the prompt response by the carriers of the

country to another summons by the United States Railroad Labor Board to any further hearings which may be called in connection with this subject, in the event the Board should determine upon that course."

The railroad managements took the only course possible, under the conceptions set forth in the Transportation Act, of orderly and peaceful adjustment of disputed questions. It was the only course consistent with the protection of the public's right to uninterrupted transportation on fair and reasonable terms.

There is no need to argue here in defense of any part of the decisions of the Railroad Labor Board. The decisions have been attacked publicly by representatives of the unions and the Board has, both in the text of the decisions and in subsequent communications, answered the arguments fully justifying its position.

A determined effort is being made to induce the public to stand with those who have resorted to the strike as a means of overthrowing the decisions of a body, set up by the people of the United States through their Congress, for the purpose of preserving industrial peace. In such a situation can any law-abiding citizen hesitate?

However important economically, industrially or socially the outcome of the railroad strike, or the coal miners strike or any other strike, might be, it is of small significance compared to the decision by American Public Opinion of the question: "Shall industrial disputes be determined by orderly process or by a resort to force?"

Industry Summer School

THE Seventh Annual Summer Session in Industrial Organization and Administration will be held at the Pennsylvania State College from August 28th to September 9th, under the immediate direction of Professor Edward J. Kunze, assisted by Professors J. O. Keller and P. P. Henshall of the department of Industrial Engineering.

The course is an intensive one, designed to meet the needs of manufacturers, superintendents, personnel directors, accountants, production managers, and all others who pilot the affairs of industry.

Its purpose is to assist men in the development of their jobs, to broaden their horizon of the possibilities of the science of management and to illustrate to them by practical examples the most effective methods of modern organizations. It is not a theoretical résumé of a batch of reading material but rather a careful consideration of the

theory in its application.

The work is divided into discussions on industrial organization, manufacturing methods, employment, industrial relations, factory planning, material and production control, scheduling and dispatching, purchasing, cost accounting, and kindred subjects. The greater portion of the time is devoted to practical installation methods, using the equipment of the five shops and the other facilities of the department that have been especially designed to handle this type of work.

Besides the discussions and laboratory applications, provision has been made for group conferences.

The different lines of manufacture followed by those who have attended former sessions have been quite varied: besides machinery in its various forms they have covered subjects from bridges to safety pins and from shirts to incubators.

What The Coronado Decision Means

Simply that a union, like a corporation, employing its organization and funds to force its arbitrary will on trade and traders, must answer as an entity for all wilful wrong and injury inflicted

Written especially for AMERICAN INDUSTRIES

By JAMES A. EMERY

General Counsel, National Association of Manufacturers

ON June 5th, 1922, the Supreme Court of the United States, in the case of *United Mine Workers v. The Coronado Coal Company*, rendered an opinion of far-reaching importance. It not only established the suability of labor unions, local or national, as entities and by name, under the seventh section of the Sherman Act, but generally in the Federal courts, wherever, by reason of diversity of citizenship or an appropriate statute, such courts have jurisdiction. The opinion has no binding effect upon State Courts, but it will unquestionably have great moral influence upon them because of its fundamental considerations and its persuasive reasoning.

The opinion is, moreover, enlightening to the profession because the circumstances of the case made it necessary for the court to discuss the character of the evidence necessary to connect the national union with a local or regional member organization which it directs, aids or abets in the furtherance of a strike resulting in malicious damage. Moreover, since in the case at issue it was necessary to determine whether the purpose of the unions involved was to injure, obstruct or destroy the interstate commerce of the plaintiff, it presents a most interesting analysis of the circumstances necessary to show a purpose on the part of such organizations to restrain such commerce.

The plaintiff in the court below was the receiver of nine corporations engaged in operating coal mines in the Prairie Creek Valley, in Sebastian County, Arkansas. The defendants were the United Mine Workers of America, an unincorporated international union, District No. 21 of this organization, and twenty-seven local unions of that District, the officers of each of these organizations, and some sixty-five individuals, mostly members of the various unions but including some persons who were not. It was complained that all of these organizations and persons had entered into a conspiracy to restrain the commerce of the plaintiff in violation of

the first and second sections of the Anti-Trust Act, and, to accomplish this purpose, destroyed the plaintiff's property. It was alleged that the damage to the property and business amounted to \$740,000, which under the Act, if proof is had, results in treble damages.

The unions demurred to the original complaint on the ground they were not suable by name and the District Court sustained their demurrer. On appeal to the Circuit Court of Appeals the District Court was reversed. The case was then tried on its merits and the jury gave a verdict of \$200,000 against the unions, which was automatically trebled. The Court of Appeals affirmed this judgment except as to the interest. The matter then came to the Supreme Court of the United States on a writ of error.

The opinion written by Mr. Chief Justice Taft is concurred in by the whole court. He found there were five principal questions presented to the court:

"The first is that there was a misjoinder of parties plaintiff. The second is that the United Mine Workers of America, District No. 21, United Mine Workers of America and the local unions made defendants are unincorporated associations and not subject to suit and therefore should have been dismissed from the case on motions seasonably made. The third is that there is no evidence to show any agency by the United Mine Workers of America, in the conspiracy charged or in the actual destruction of the property, and no liability therefor. The fourth is that there is no evidence to show that the conspiracy alleged against District No. 21 and the other defendants, was a conspiracy to restrain or monopolize interstate commerce. The fifth is that the court erred in a supplemental charge to the jury, which so stated the court's view of the evidence as to amount to a mandatory direction coercing the jury into finding the verdict which was recorded."

The first is a technical question, under the Arkansas procedure in which

the court found no error. The third, that the national organization, the United Mine Workers, had any part in the matter, was answered in the negative. The fourth question involved two issues:

"(a) Whether the District No. 21 and the individual defendants participated in a plot unlawfully to deprive the plaintiffs of their employes by intimidation and violence and in the course of it destroyed their properties, and, (b), whether they did these things in pursuance of a conspiracy to restrain and monopolize interstate commerce."

The first of these the court answered in the affirmative; the second in the negative. That is, that while it was a conspiracy to drive out the non-union men and to destroy the properties in question, "it was, in fact, a local strike, local in its origin and motive, local in its waging, and local in its felonious and murderous ending." This does not, of course, mean that any of these acts were justified in themselves, but being local in their nature and purpose, they were aimed at production and not commerce, and therefore beyond the reach of the statute in question.

The last question the court found it unnecessary to pass upon. There remains, therefore, the vital second question. That is, "were the unincorporated associations, the International Union, District No. 21, and the local unions suable in their names?"

Now, under the seventh section of the Anti-Trust Law, suit is authorized against "corporations and associations existing under or authorized by the laws of either the United States, or the laws of any of the territories, the laws of any state, or the laws of any foreign country."

The court goes on to show that these long enduring, powerful, well financed, easily controlled organizations, have gradually assumed, both in the United States and England, not only the form and substance of separate entities or legal personalities but they have sought and been given affirmative legal recognition as such.

The Congress authorized the incorporation of national unions as early as 1886, recognized their existence and legality through the Clayton Act of 1914, identified and provided for the appointment of their representatives upon boards of arbitration through the Transportation Act of 1920, and relieved them of taxation through the original Revenue Act and its successive amendments, and gave privileged status to the admission of labor union publications to the mails as second class matter.

Contemporaneously with these Acts of Congress, many State Legislatures gave the same recognition to their right of existence and legal operation, protected the use of the union label, of union cards, badges and insignias, gave the right to membership in public bodies, and made the embezzlement of their funds or the bribery of their representatives distinct offenses. Thus they organized as entities, acted as entities, did injury and conferred benefit as entities, and sought rights and privileges as entities.

They had ceased to be merely loose partnerships and had become powerful organic personalities capable of great harm or good. Every circumstance of their relation to our social life forbids that they should be treated other than for what they are, so the court found the language of the seventh section of the statute perfectly descriptive of their character and condition. They exist and are authorized and recognized as legal personalities as much as corporations, by the laws of the nation and of the states. Of the great national organization presented in the case, the court said with respect to the amount and control of its funds, the number of its members and the power of discipline over them: "No organized corporation has greater unity of action, and in none is more power centered in the governing executive bodies."

The liability which the court recognizes is thus predicated not merely upon the language of the statute but upon notorious facts, which any intelligent layman can perceive as clearly as did all the judges of the court. A union like a corporation, employing its organization and funds to force its arbitrary will upon the free movement of trade and traders, must answer as an entity just as it acts as an entity for all wilful injury inflicted by its agents in pursuit of its purposes. That is merely a declaration of a great truth, approved alike by common sense and common law. There can be in modern society no use of organized power without corresponding legal responsibility for its exercise.

That is all the decision means. What

fair-minded man in or out of the unions should object to the obligation it creates? Mr. Gompers, to be sure, is regally irritated. He has for years insisted upon conducting himself as an Appellate Division of the Supreme Court of the United States, but Mr. Gompers is committed by frequent declaration to the remarkable creed that a labor organization should not be held to legal responsibility for its acts or those of its agents. Mr. Untermyer, recently examining him before the Lockwood Committee, sought in vain to present to him any form of injury wrought by organized labor which he would admit ought to be made the subject of legal redress. Presented with the instance of a contractor in the erection of the Ambassador Hotel in New York being compelled by the Plasterers' Union to destroy his own mantels and substitute others attached by a more costly method, he was asked:

"Where should the remedy be, what remedy should he have?"

And he answered:

"He has none. That is the risk of the industry."

When the demonstrated abuses existing in the building trades were epitomized by counsel, he was asked:

"Do you think it is in the interest of organized labor that these abuses should be allowed to continue unchecked?"

And he replied:

"Yes."

When asked if a union man should assist in the administration of justice by telling the truth in litigation between employer and employe, he replied:

"I do not think he should assist the employer in a contention with a union of his trade or calling."

To such mutilated minds it may be possible to make it seem that power and responsibility must not go hand in hand in every department of social life. It is, indeed, a sad reflection upon the human intellect that the sources of thought may be so poisoned that the well of unionism undefiled may draw such water. But to the average man, it must seem that the root principle of this decision requires no technical art of the lawyer, no obtruse learning of the judge, but is merely a progressive spontaneous expression of the necessity of meeting a social obligation without which it would be unsafe to permit any great human force to exert its powers in our delicate and interdependent life.

Industrial Direction Course

THE Seventh Annual Session in Industrial Organization and Administration will be held at Pennsylvania State College from August 28 to September 9, under the immediate direction of Professor Edward J. Kunze, assisted by Professors J. O. Keller and P. P. Henshall, of the Department of Industrial Engineering.

The course is an intensive one, designed to meet the needs of manufacturers, superintendents, personnel directors, accountants, production managers and all others who pilot the affairs of industry. Its purpose is to assist men in the development of their jobs, to broaden their horizon of the possibilities of the science of management and to illustrate to them by practical examples the most effective methods of modern organizations. It is not a theoretical résumé of a batch of reading material but rather a careful consideration of the theory in its application.

The work is divided into discussions on industrial organization, manufacturing methods, employment, industrial relations, factory planning, material and production control, scheduling and dispatching, purchasing, cost accounting, and kindred subjects. The great-

er portion of the time is devoted to practical installation methods, using the equipment of the five shops and the other facilities of the department that have been especially designed to handle this type of work.

Besides the discussions and laboratory applications, provision has been made for group conferences. The benefit to be derived from intimate contact with others whose problems are mutual and the valuable *acquaintanceships* formed make this group conference feature a very valuable one.

FOUR MANUFACTURERS

CONSOLIDATE

Johnson, Cowdin & Co., Walter Emmerich & Co., Tremont Mills and the Bay View Ribbon Company, four of the leading ribbon manufacturers of the country, have consolidated. The deal involves approximately \$5,000,000, and the financing incidental to the merger will be handled by a group of investment bankers headed by Merrill, Lynch & Co. The executive officers of the new company will be chosen from Brice P. Disque, John Cowdin and Samuel Keller Jacobs, who have been the active heads of the old companies.

The State Police As An Asset

Small but wonderfully disciplined organizations in various states have proved their great efficiency in quelling disorders in their incipency and in enforcing the law impartially and fearlessly

Written especially for AMERICAN INDUSTRIES

By MILTON R. PALMER
Editor of the State Trooper

ROMANCE has been so entwined about the exploits of the Texas Rangers and the "Scarlet Riders" of the Canadian Northwest Mounted Police that the average business man, when the subject of a constabulary force is mentioned, is apt to think of these heroes of the novel, the short story, the stage and the screen rather than of the real-life figures of the State Police forces which have made so enviable a record in law enforcement in nearly a dozen commonwealths of this continent, in the past few years.

It is natural that the impression of romance should be first in mind. In passing the moving picture theatre, one sees the colorful posters announcing a drama centering in the heroism of a Ranger or a Scarlet Rider; in glancing into the windows of a book store, the title of a novel, built around the adventures and triumphs of the mounted forces, catches the eye. The repetition of this suggestion inevitably causes the average person to link the ranger or the state trooper with the cowboy of fiction and to obscure any thought of the every-day utility of the force of which these fictional heroes have been made the emblem.

In truth, there is inspiration aplenty for romance in the deeds of the present-

day troopers but it is incidental to a vast amount of quiet, prosaic service in protecting life and property; it is the exception to the routine of daily duty in which every member of a constabulary force from commander to recruit is engaged. At the field day of the Pennsylvania State Police in October, 1921, there were a dozen stalwart members of the force cited for conspicuous bravery, for which they were personally decorated by the governor of the commonwealth. Yet each of these instances had been incidental to the regular and ordinary duties of the force.

One does not need great imagina-

tion to conjure up a romantic interest in picturing a patrol of West Virginia troopers penetrating the mountainous "Smoke Holy country," two days' ride from a railroad, or of Michigan riders pursuing a murderer through the pine barrons of the north, or men of the "Black Horse" troop of New York guarding the highways that lead from Quebec, over which the gunmen of the whiskey-smuggling convoys used to ride so recklessly. There is thrill enough in these occasions; but such adventures are only the high lights in the picture of law enforcement.

The great triumph of the State

Police, in whatever state they may operate, is that they bring the blessing of respect for the law, of uniformity in the operation of the statutes, of guarantees for the safety of person and property. Prosperity depends upon law and order and the value of the constabulary is that it gives to every citizen, from the laborer to the bank president, the assurance of protection for his life, his home and his business.

Those mounted forces which gained such fame in Texas and in western Canada were formed for the purpose of coping with frontier conditions. They had to protect newly-formed communities against the



Trooper Ray D. Trimble, Michigan State Police

lawless elements which always flock to regions experiencing a colonization rush. The desperado, the two-gun man, the rustler and the hold-up man may always be found where a rush into new territory is occurring, where new mines are being opened, where fortunes are made quickly.

Before these districts could become really settled, before true and lasting prosperity could come to them, the rule of law had to be established, the rights of life and of property made secure. That was the task of the Texas Rangers and the Northwest Mounted.

The great development of Texas would have been impossible but for the heroism of the Rangers. And also, the abounding richness of western Canada could not have been attained but for the intrepid riders who made the country safe. What has been said of these two famous bodies of troopers is true, as well of the Mounted Police of South Africa and the Rurals of Mexico in the days before that unhappy republic was torn by revolution.

Business follows the law—the business of the banker, the merchant, the manufacturer, the carrier of goods, the miner, the farmer, and the workingman. Without respect for the law and enforcement of the law, no form of business can prosper. And without that orderly conduct of affairs which we call business, our civilization itself would fail.

In a sense, therefore, the constabulary forces in frontier districts have been the pioneers of civilization.

Since the beginning of the present century, however, there has been a new form of constabulary constituted—that which is referred to in the term "State Police." The oldest of these is the Pennsylvania State Police, authorized by a law passed in 1905, which has become the model for forces organized later in other states. It was created to deal with situations entirely different from that which had brought about the organization of the Texas Rangers and the Northwest Mounted; the problems which it had to deal with were those of a state of great industrial centers surrounding agricultural area having insufficient police protection.

Because he did not have to deal with conditions such as were responsible for the frontier constabulary forces, John C. Groome, the first commander of the Pennsylvania troopers, studied not only the American forces but also the European, including the Royal Irish Constabulary. The organization, discipline and history of these furnished the basis upon which he created a new organization, modern in plan and methods. His

success was remarkable and the Pennsylvania State Police stands to-day as an example of what such a body of men should be. It is a source of pride to-day to every right-thinking resident of the Keystone State that his state has such an organization to uphold right and punish wrong-doing.

True, the Pennsylvania State Police has made enemies; but they are enemies of which it may be proud. It has antagonized those who sought to override the law and the rights of their fellow-men; it has created fear and hatred among those who were dishonest, vicious or tyrannical; but it has made Pennsylvania a better state to live in and to do business in and it has done this by enforcing the laws rigorously and impartially.

As Major Groome created the State Police, it has remained, a body of



Horses are taught to go up and down stairs

trained and efficient men, chosen for courage and honesty, living under a semi-military discipline and accustomed to act quickly and upon individual initiative. Formerly its members were all horsemen; now the force also includes men mounted on motorcycles and the automobile has also come to have a part in its work. It is extremely mobile, the units being so placed that they can be massed in short order. The pride which is best expressed in the French phrase "esprit de corps" has been maintained and is one of the secrets of the continued success of the Pennsylvanians. Every trooper is taught that he must never bring disgrace upon his uniform and that behind him, should he be injured or killed in the discharge of his duty, is the certain avenging action of every one of his comrades.

Major Lynn G. Adams, who has risen from the ranks, is now com-

mander of the force. His officers are also men who have risen by merit, and not by political favor. Headquarters is maintained in the State Capitol at Harrisburg and there are five field troops, each being assigned a definite section of the state to patrol; in addition there is a school troop where recruits are trained in the law, in shooting and riding, in care of their mounts and equipment, in the rudiments of the art of catching and prosecuting criminals, in courtesy in dealing with the public, and where, above all, they absorb the spirit of this famous organization. It is not an easy school but the trooper who comes out of it for service in one of the field troops is a man indeed and rarely fails to do credit to the Pennsylvania State Police.

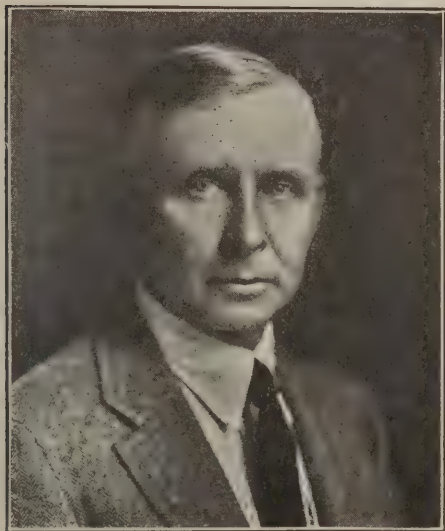
The greater part of the work done by these troopers, as is also the case with those of any other state force, attracts little attention from day to day. It is a routine of duty in the smaller towns and in the countryside, the apprehension and prosecution of criminals, the cleaning out of undesirable places and the regulation of unruly elements. At the end of the year the statistics of accomplishments loom large when the annual report is made. Then it is seen that the record of arrests covers the whole category of criminal offenses and that, in addition to this law enforcement work, the members of the force have rendered assistance in a multitude of ways to citizens of the state.

What does not show in the annual report is the great value of the force in preventing crime. That is something which cannot be estimated.

It was a dozen years after Pennsylvania had organized a State Police before other states followed this lead. Then, in the early days of the World War, New York and Michigan decided to inaugurate similar forces. Governor Charles S. Whitman succeeded in passing the bill through the New York Legislature by the scant margin of one vote and appointed Major George F. Chandler, a noted surgeon, as commander. In Michigan the State Police was organized under a general defense act passed by the legislature and Colonel Roy C. Vandercook was appointed as its head.

The New York Force consisted at first of four troops and was later increased to six, while an excellent school is maintained at Troy. The Michigan force is one of four troops. Both organizations have justified the hopes of their sponsors and each has developed special features which have proved of value.

Next in the list came West Virginia where, in 1919, Governor John J.



Colonel R. C. Vandercook, Michigan

State has a small but very satisfactory mounted police force patrolling the rural districts.

In other states the State Police idea has found favor. Attempts have been made to substitute some plan based on existing police forces but such attempts have not evolved anything of real value. There is now a very general sentiment in most of the northern states, and in some southern ones as well, to authorize and organize state police bodies on the Pennsylvania plan.

The Dominion of Ontario has made the "Scarlet Riders" a national institution by making the force a federal one with headquarters in Ottawa and the patrol of the Royal Canadian Mounted is now from the Atlantic Ocean to the Pacific. Texas also has



Lieutenant Jack Kings, West Virginia

Cornwell secured approval of the bill by a margin of one vote in each house of the legislature. Two troops were raised, under command of Colonel Jackson Arnold, and this number was increased to four troops at the 1921 session of the legislature. Colorado, New Jersey and Connecticut followed with forces modeled on that of Pennsylvania. For sentimental reasons the name of Rangers was given to the Colorado force, the prestige of the Texas Rangers being strong in that portion of the country. Maryland raised a small State Police force under the authority of the Motor Vehicles Act.

In Massachusetts the State Police has a different history. There a state detective force has been an institution for years and has performed excellent service. It was not until after the police strike in Boston, which attracted national attention, that the proposal to create a uniformed constabulary found strong support. That proposal was approved by the legislators of the commonwealth and now the old Bay



Captain Winfield W. Robinson, New York

affairs, which touches our daily lives in only a restricted way, we have provided adequate civil police agencies, with the national army to back them up. There has been much less of strength in state and local law enforcement.

States which do not have state police usually have some official to perform police service in connection with game and fish laws and such special matters. For general enforcement of the laws, the state government must depend upon the localities except in the gravest emergencies, when the militia is called out.

As to the local governments, it may be said that the large cities usually have efficient police forces, the smaller cities less efficient forces and the rural districts little protection worthy of the name. The village marshal, the township constable and the deputy sheriff who owes his position to political activity are not the sort of material to heighten respect for the law or to bring consternation to evil-doers.



Corporal C. H. Kline, Maryland

modernized the organization of the Rangers and that famous body has a long lease of new usefulness ahead.

The vital fact which demonstrates the necessity of State Police is that such a force represents the authority of the entire commonwealth and not the various counties, cities, villages and townships which go to make up the state. It gives to the state government a strong law-enforcement agency and it coördinates and supplements the local police agencies. Thus it makes for uniform enforcement of law and equal protection to all persons.

In the growth of our American institutions there has come a gap between the local administration of law and the federal administration. The tendency for decades was toward the lessening of the power and authority of the State. In the field of national



Norman E. Henry, E. F. Arnbrecht, Colorado Rangers

Furthermore personal influence and local politics result in the partial abrogation of certain laws. A state law may be enforced in one county and utterly ignored in the next one and the same variance may take place between different portions of the same county. Even where the local officials are honest, energetic and free from influence, they are usually untrained and their authority runs only within the narrow boundaries of their county or town.

It is the weakness of the state governments which is responsible for most of the lawlessness in our country.

The state police, representing the state government, can go into any municipality to enforce the will of the state as expressed in its laws; they have the training to assist the local official in dealing with his problems, they need stop at no county boundaries and can pursue the criminal into any part of the state or into other states. Best of all, they are a strongly centralized organization with a wide view, their system of communications is such that they can unite their efforts, and they are not influenced by local prejudices, fears, politics or any other paralyzing factor.

State Police are not only effective in themselves but they increase the effectiveness of every other police agency within the state.

Since the State Police do not, ordinarily, appear in the larger cities except in times of riot or disorder, the business man, whose interests are centered in such a city, might inquire as to what concern he could possibly have in the creation of a force in his own state, if one is lacking there. Indeed, there are many business men who take it for granted that they have no such interest. They are short-sighted.

Industry has spread out wonderfully in the last few decades. Furthermore, it has become inter-related and complicated in a way undreamed of a generation ago. Every business establishment depends for its operation upon a multitude of other concerns which have dealings with it. Even the most cursory survey will demonstrate how speedily the course of business runs from the large city to the smaller town and to the rural districts. If there is any impediment along the line, the whole progress of affairs is held up.

The manufacturer in a small town realizes much better his reliance upon the state police. His protection against robbery and against damage to his plant and to his home at the hands of vicious elements is multiplied. His employes are likewise protected and are more content because of living in an orderly community. While it may never happen that he

has to call directly upon the State Police, he benefits daily from their preventive work in checking crime and disorder. Since so many manufacturing concerns have sought the smaller towns, and since these companies supply goods to and receive goods from the factories in the larger cities, there is a direct chain of interest based on the adequate preservation of order in the smaller towns.

Influences adverse to the welfare of employes of an industry are the existence of gambling places, evil resorts, bootlegging saloons and similar places. Local officers are often unable or unwilling to cope with such situations; state police clean them up effectively. Existence of gangs of disorderly persons, of blackhanders and blackmailers, of robbers and swindlers, are all bad influences in a community and state police can be depended on to break them up.

Modern highways, with their flood of automobile travel, have created new problems. The bandit, the bank-robber, and other kinds of criminals have learned the possibilities of the high-powered motor car in making a rapid descent upon some unprotected town, committing a crime and getting away quickly. Such conditions require a state-wide organization to curb the crimes. Bank robberies have been minimized in states having the constabulary to guard their highways.

In one section of Michigan twenty small cities and villages had been visited by a bold crew of motor car robbers within a period of a few weeks, stores burglarized, houses and factories robbed and pedestrians held up. A detachment of State Police sent into the district stopped this miniature crime wave at once.

The charge most frequently made against the state police and that on which the virulent opposition to the system is based, as evidenced in legislative hearings, is that the troopers are "Cossacks," that they are opposed to labor and that they are "strike-breakers." This charge is based on the fact that in various states the troopers have been called in to restore order in cases where strikes had developed into violence.

Some notable cases will come to mind. There was the service of the Pennsylvania State Police in the Philadelphia street railway strike and in various steel and coal region strikes; that of the New York State Police in the Lackawanna steel strike, the Albany traction strike and others; the service of the West Virginia State Police in the coal-mining regions, the success of the Michigan State Police in quelling disorder in the iron mining district, the timber

workers' strike and other disorders; and similar incidents in other states.

Investigation will show that in every case the constabulary did no more than to enforce the law impartially and fairly and to apprehend and punish those who had broken the law. It is the duty of the state to protect every citizen in his rights and one of his rights is that of gaining an honest living for himself and his family by his labor. When men who are not working seek to assault and intimidate others who are working, the latter are entitled to the protection of the law. State Police have never interfered with the right of any men to strike; they have merely taken the necessary measures to prevent unwarranted and illegal interference with those who did not desire to strike but, instead, who wished to work.

The state police, obeying the theory and the practice of the law, simply do not recognize that the purpose of a certain coterie of men to cease work confers upon such men any rights or powers to attack the persons or property of others. The duty of the troopers being to uphold the law, they calmly and fearlessly do so.

It cannot be denied that State Police have been more successful than any other agency in dealing with disorders following upon labor disputes. They are not subject to any of the influences which weaken and overawe local officers and they can be quickly mobilized in such numbers as to compel respect. Their training teaches them to take the necessary steps promptly and to instill the lesson of compliance with the law so that it will be remembered.

There would have been no massacre of workers at Herrin, Ill. had there been an Illinois State Police.

More important, however, than their work in quelling disorder is that of preventing it. A state police commander usually knows of dangerous conditions in time to dispatch a force to the threatened point and to stop disorder at its very inception. It is this fact which makes the use of state police more satisfactory than that of militia in labor troubles. The militia cannot be called out until conditions have become serious and, often only after great damage has been done. Also, the calling out of militia is a very expensive proceeding and takes many persons away from their regular occupations.

There is no conflict in the functions of the State Police and the National Guard. The former are organized for police work every day in the year and are specially trained for their

work; the guardmen are trained for the national defense and should only be used for state purposes in the very gravest crisis.

Each of the state police forces is organized for the particular duties devolving upon it; there is a certain standard to which all are approaching. In the forming of a new force this standard should be approximated from the beginning.

The headquarters of the force has several divisions. There should be an identification bureau, with finger-print experts who can be sent to the scene of any crime to cooperate with the plain clothes men of the organization in searching for clues to the perpetrators of the deed. Inasmuch as only the largest cities have efficient identification bureaus and detective forces, these specialists are of the greatest benefit to the sheriffs

and other police officials in the entire area outside the large cities. There should also be a bureau of communication which handles the transmission of police information, receiving news of important crimes and transmitting it to other localities. There is also a purchasing department and, perhaps, one having to do with the care of motorcycles, automobiles and other equipment. In all states except Pennsylvania the training school is also attached to the headquarters.

Each field troop has a headquarters with a captain in charge and a small force of enlisted men. Through the remainder of the troop's territory are small detachment posts, each consisting of a few men under command of a corporal or sergeant. Each of these detachments has a certain district to patrol and is responsible for preserving the peace in its district. An increasing amount of the patrol work is done by motorcycle.

The state headquarters is in constant touch with the troop headquarters and the latter, in turn, are in daily communication with the detachment posts. In time of emergency, mobil-

ization can be quickly had and a sufficient force sent wherever needed. It is the aim of all state police organizations to cooperate in every way with local officers and the greater number of these welcome such cooperation. Wherever local officers are hostile to the state police, there is generally an

the community in daily service of the most varied nature; it returns a special dividend in times of emergency, such as riot, flood, forest fires, city conflagrations or other events necessitating unusual police protection.

The cost of a state police force is offset by the revenue derived from in-

spection services, from fines and costs incident to arrests, from sale of confiscated materials and from savings and from return of stolen property. A still greater return is that due to crime prevention and to the consequent prosperity due thereto.

Highways are made safe for the traveler and the use of them by law-breakers is minimized.

State government is strengthened and uniformity of law enforcement is promoted.

The business men in every state where there is a state police should recognize these facts and their

direct interest in them and should, through their organizations and individually, communicate their feeling to the members of their state legislatures. In states where the state police system has not yet been adopted it is the duty of the business men to set in motion the measures to bring about the authorization of a constabulary as soon as possible.

Most important of all, it is to the interest of every business man to see that state police forces are so organized and so administered that politics shall be excluded and the officers and troopers be allowed to act impartially and freely that the good of the entire community may be enhanced.

WHEAT GROWERS EXPAND

The cooperative marketing of Northwestern wheat through the Northwest Wheat Growers, Associated, will be done on a scale more extensive than ever before in the Fall of this year, 20,000,000 bushels being handled through the Minneapolis office alone, Manager George C. Jewett of the organization announces at its Portland office.



Captain McLaughlin (center), Major Lynn G. Adams (right), Pennsylvania

underlying reason which is not discreditable to the troopers. The New York State Police school is open to local officers and many take advantage of this opportunity.

In some states enforcement of the fish and game and forest laws has been entrusted to the constabulary; in others this is not the case. Such work is efficiently done by state police but, of course, requires additional men.

It has happened at various times and in different states that local officials who were dishonest, inefficient or cowardly have been removed because of revelations made by the state police in the course of law enforcement work. This has not been due to a desire to meddle in local affairs but merely that such action was unavoidable in order to procure law enforcement.

In summary it may be said that the state police have proved a successful law-enforcing agency in every state where the system has been adopted and that the benefit has been in direct proportion to the completeness of the organization and to the powers granted in the law creating it.

A state police returns a dividend to

AMERICAN INDUSTRIES

D. M. EDWARDS, EDITOR AND MANAGER

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LEST WE FORGET—HERRIN

BELIEVING that the lack of vigorous action by the proper authorities to punish the perpetrators of the Herrin Mine Massacre, is a rebuke to law and order and a menace to the public, the Board of Directors of the National Association of Manufacturers authorized the following statement:

"On June 22, 1922, a number of citizens of the United States, lawfully engaged in coal mining at Herrin, Williamson County, Illinois, were fired upon by a large force of unidentified men, to whom, in fear of their lives they surrendered under a white flag. Nineteen of them were thereafter murdered under circumstances of unparalleled atrocity. The plain and notorious purpose of the slaughter was to deter all others from accepting employment which striking miners had abandoned.

"From the uncontroverted statements of newspaper correspondents, local officials, and the action of the coroner's jury at the ensuing inquest, it is now known that local and state authority neither afforded protection,

interfered during the commission of the crime, or has been or is disposed to identify or apprehend the perpetrators. The inquest, clearly controlled by participants in the massacre or sympathizers, added insult to the dead by condonation of their assassinations.

"The horror of every circumstance of this dreadful tragedy is intensified by the apathy and inactivity of constituted authority; and also by the sinister silence of beneficiaries of this intimidating influence. The American Federation of Labor was in session during the outrage and its aftermath. But, despite the notorious affiliation and purpose of the perpetrators, the crime was neither deprecated nor the guilty organization rebuked by that convention. That vast organization, without protest, tolerated the bloody destruction in others of the rights it asserts and demands for its own members.

"The disgrace at Herrin is too significant in every circumstance and consequence to be passed unnoticed by thoughtful Americans. 'The right and liberty to pursue a lawful calling, and to lead a peaceable life free from molestation or attack, concerns the comfort and happiness of all men, and the denial of them means the destruction of one of the greatest, if not the greatest, of the benefits which the social organization confers.' * * * 'The right thus to work cannot be made to depend upon the approval or disapproval of the personal character or conduct of those who claim to exercise this right. If this were otherwise, then those who remain at work might, if they were in the majority, have both the right and the power to prevent others who chose to cease to work from so doing.'

"These are the historic words of the great Anthracite Coal Strike Commission of President Roosevelt. They were approved when uttered by employer and employe, union and non-union. We ask every loyal American to join in demanding the protection, by state and nation, of these fundamental rights of the citizen, that no man shall live his life by the consent of others, and no official shall refuse or neglect to guard these living truths of the day's work."

THE NEW RAIL WAGE CUT

(From the New York Herald.)

THE new railway wage cut, estimated at \$27,000,000 a year, is small compared with the previous cuts approximating \$100,000,000. Yet, at that, the \$27,000,000 to come off the payrolls of clerks, station men, etc., may give the roads much more financial relief than the far bigger sum represented in the wage reduction of shop workers and maintenance of way workers.

The reason for this, as before explained by *The New York Herald*, is that the American railroads as a whole need to put a great deal more money into the rehabilitation of their roadbeds, rails, ties, ballast and everything, than will come off the existing maintenance of way payrolls on July 1, by the wage cut there. They need to put a great deal more money into the restoration of their crippled rolling stock than is represented in the shop wage reductions.

The railroads need to do this immediately and they will need to do it for years before they can get back into the physical condition they had maintained until Government operation well nigh wrecked them.

The mischief worked to the physical properties under Government operation was not merely that needed repairs and other maintenance work were grossly and dangerously neglected. There was the further injury done the roads in getting the labor costs of that kind of work so highly inflated under Government operation and getting the personnel engaged so indifferent to efficiency that when the roads were returned to their owners they could not find the money to pour into the work which had been made prohibitively costly by the agreements and working conditions set up under Government operation and only now being slightly mitigated by the private management under the restrictions of the United States Railroad Labor Board.

The railroads ought to put back into the properties all the money that comes off the payrolls in the departments of shops and maintenance of way, and most of them will do that very thing.

There might be a chance, on the

other hand, for the roads to make a clean saving out of the \$27,00,000 a year to come off the payrolls of the clerks and station men if they wanted to save it all. As a matter of fact, however, many of the roads will be glad enough to have that money also to put into the everywhere overdue, in some instances desperately needed, repairs and reconstruction.

Meanwhile the real hope of the American railroads digging themselves out from under the financial cave-in that crashed upon them with Government operation rests in their ability to get a square day's work done, as it used to be done, by a man paid to do a square day's work. The 300,000 extra men that the Government administration threw upon the railway payrolls did not improve the service; on the contrary, demoralization of the working forces set in at once. But the overmanned payrolls did bury the railroads under a crushing mass of labor charges, and the national transportation system never can become itself again until it gets back on a solid basis of work paid for only if it is work that is done.

UNCLE SAM AND EIGHT HOURS

UNUSUAL interest has been aroused by the report that President Harding has under consideration the matter of fixing an eight-hour day for all the employes of the United States Government. A "little more business in government" might well be along the lines of having the employes accept the usual period for work, instead of the seven-hour period which they have been observing for so many years.

Aside from the fact that the increase from seven to eight hours will result in more work being done, it is also anticipated that in some directions it will be easily possible to reduce the number of employes for certain lines of duties, or to employ them to more advantage in other channels that might be pressed.

Hours of labor in industry, in offices, and even in many professional lines, have become such a standard, that it is hard to see why the same national habit should not be followed by those

ANNOUNCEMENT

In this issue "American Industries" begins a series of articles on the Romances of Industry, a field that offers not only constructive information but many illustrations of the value of steady and persistent pursuit of an idea.

working for the government—whose salaries are paid by the people who are working eight hours a day throughout the nation.

WORLD CROP OUTLOOK GOOD

WORLD crop conditions may be described, on the whole, as fair at the present time, judging from the cable report received by the Department of Agriculture.

The most gratifying development is the warmer weather that has set in throughout Europe, which, accompanied by general rains, is having a good effect, especially on the planting and germination of corn.

It appears that in France, Germany and Poland, the wheat crop this year will lag somewhat behind the normal. Elsewhere, however, the full quota is expected, with boom crops in certain quarters. The lateness of the spring has been the most adverse factor in the agricultural situation thus far.

Central Europe, in parts of which famine conditions prevailed a year ago, reports general improvement. In Austria and Hungary, and although some poor fields are complained of, the crop is generally in average condition. Warmer weather is need in Czechoslovakia where some winter wheat has been abandoned. This has probably been compensated for, however, by an increase in spring seedings.

The outlook for the winter wheat crop is good in Bulgaria and recent rains have benefited spring wheat. Favorable weather is reported in Jugoslavia and is greatly facilitating crop growth. Winter wheat is looking good in Rumania; spring wheat has germinated well and is making good growth. The low temperature and frosts during

April caused some damage to the crop in Poland and the condition is slightly below average. Growing conditions are reported as more favorable in northern and central Italy.

Outside Europe conditions point to a crop of average, or better, proportions. Egypt has successfully combatted the much feared rust and smut, which have appeared in all provinces, but caused damage of only trifling proportions.

Total 1921-22 production of wheat for the Southern Hemisphere, which includes Argentina, Chile, Uruguay, Union of South Africa, Australia, New Zealand and British India is estimated at 712,777,000 bushels, an increase of 100,664,000 bushels compared with the same date last year. Australia and Argentina enjoyed good weather for plowing and planting. India's final figures show a greatly increased acreage, and the yield will be one of record proportions there.

NEW YORK CITY TELEPHONES

NEW YORK CITY has more than a million telephones. To be strictly accurate, the number is 1,010,056, or one for every six persons of the population, counting children. There are six times as many telephones in New York as there are in Paris, and more than there are in all England.

The first company was formed here by Charles A. Cheever and Holborne L. Roosevelt in 1877. They strung only separate wires and, as no attempt was made to establish a central office, the enterprise came to a disastrous end within a year.

It was through the business capacity and imagination of the late Theodore N. Vail that New York has become the telephone capital of the world. He founded the first exchange at No. 82 Nassau street in 1879 and put in switchboards, very crude in detail and only eight by ten inches in size. A violent sleet storm dragged down the wires in 1881 and laid the company flat on its back. It soon recovered, put in the multiple switchboard and then solved another problem by the development of the underground cable. There are 108 central offices to-day for the solitary one of 1879.

Lest We Forget — Herrin, Ill.

What leading newspapers of the country have to say regarding the killing of the non-union laborers by striking miners and their sympathizers and the failure of the authorities to prosecute

"Los Angeles, Cal., Times," June 24

"RESPONSIBILITY for the bestial horrors of the mine riots at Herrin, Ill., does not rest solely upon the rioters.

"In equal measure the guilt must be laid at the doors of leaders like Samuel Gompers and Lewis, the president of the United Mine Workers of America."

"Hartford, Conn., Times," June 24

"The annals of American labor controversies disclose no story more hideous than the description of the descent of this Illinois mob of 5,000 moonshine whisky-crazed miners upon the half hundred men employed to work the mine."

"Wilmington, Del., News," June 27

"The massacre of the non-union coal miners in Herrin by the men whose places had been taken has dealt unionism one of the deadliest blows it has suffered in this country."

"Macon, Ga., Telegraph," June 24

"It would be difficult to estimate how greatly the miners have injured their cause by converting themselves from strikers into murderers and criminals."

"Chicago, Ill., Post," June 23

"When labor marshals its forces, arms them by the commandeering of guns and munitions and declares war, it takes ground which it cannot be allowed to hold."

"Chicago News," June 24

"The failure of the mine workers' organization of Illinois to keep its striking members in hand is a lasting blot upon its record."

"Chicago Journal," June 26

"The outrage at Herrin was a terrific blow at the miners' union, and all attempts to shift the blame to the operators but increase public indignation."

"Chicago Tribune," June 26

"President Walker of the Illinois Federation of Labor and President Lewis of the United Mine Workers have issued statements accusing 'war profiteers,' 'sinister influences,' and 'detectives' of causing the massacres in the southern Illinois mine fields.

"Walker and Lewis are talking bunk, and they know it, a particularly stupid bunk, which deceives no one and adds nothing to their credit as leaders of respectable labor."

"Augusta, Me., Journal," June 26

"In justice, Herrin, Illinois, should be ostracized, shut off from all communication with the outside world and left to soak in the blood they have spilled until they arrive at such consciousness as is necessary in a civilized citizen, until they learn that this affair is everybody's business."

"Baltimore, Md., Sun," June 23

"It would be unfair to place the responsibility for this savagery on all union labor. But the responsibility will be rightly placed there, if its leaders do not condemn in the strongest terms the unspeakable moral Turks who took part in this incredibly savage outbreak."

"Boston, Mass., Traveler," June 24

"Striking miners at Herrin, Ill., gloating over their ghastly achievement in murdering an entire company of strike-breakers, little realize what their fiendish behavior is likely to cost the labor movement of America."

"Boston Post," June 24

"And the true friends of organized labor are among those most earnest in deploring the terrible affair and in demanding that steps be taken by Mr. Lewis and his associates, as well as by public authority, which will prevent its repetition elsewhere."

"Detroit, Mich., Free Press," June 27

"These rebels against law and government undertake to justify themselves by the use of certain specious arguments, but there is no way in which the monstrous conduct of

which they have been guilty and of which they boast, can be excused, and the effort to cast blame for their guilt on others is a piece of callous shamelessness and a deliberate taunt flung at the United States."

"Minneapolis, Minn., Tribune," June 28

"Hardly anywhere along the line have there been audible expressions of regret among striking miners at the heartless tragedy centering around Herrin. 'Served them right' seems to be the general verdict as an echo of the local verdict at Herrin."

"St. Louis, Mo., Post-Dispatch," June 23

"The Herrin mob, as a matter of fact, has waged war not only upon the helpless victims it has butchered, but it has attacked the principles of our Government and ravished the traditions and ideals that are our democracy's breath of life."

"St. Louis Globe-Democrat," June 24

"Details of the massacre at Herrin, Ill., prove it to have been the most brutal and horrifying crime that has ever stained the garments of organized labor."

"Kansas City Journal," June 26

"Civilization itself revolts against such a situation. American institutions are too gravely menaced by it to warrant any such outlook upon the crimes committed last week."

"Manchester, N. H., Union," June 27

"Let us hope that state and nation will do better, and that out of the forthcoming inquiries something may come that shall separate deliberate and wholesale murder from questions of economics, and aid in running down and punishing the murderers as murderers."

"Newark, N. J., Evening News," June 24

"Mine union leaders 'deplore' the Herrin horror. Suppose the tables had been turned in the fight, and the bulk of the victims had been strikers. In what burning words would labor's hosts at Cincinnati have denounced the capitalistic butchery of the worker! Yet the victims of the Herrin mob were workers, too."

Angling For Industrial Workers

How some large concerns obtain their labor and keep them in the best of spirits and surroundings and constantly impress the men that the most successful welfare work starts in the pay envelope

Written especially for AMERICAN INDUSTRIES

By **KENNETH M. COOLBAUGH**
Superintendent, Pennsylvania State Employment Office

CONDITIONS are too unsettled and the field too large for one to state definitely where common labor, or mechanics, skilled in a specific trade, may be obtained. Such an assurance can properly come only from one familiar with conditions in your state or immediate locality. Suffice it to say that nearly every large city has its share of this floating supply and that industries which know how are rapidly absorbing it.

You must have something to sell to men. They are not a commodity which can be bought. If you are not landing men it is because what you offer does not appeal to them, or because your wares are not properly displayed.

Those things which you must sell and deliver are:

- First. Adequate wages.
- Second. Good housing and living conditions for men and their families.
- Third. A reputation for fair dealing and an enlightened twentieth century relationship between the company and its present employees.

Let it always be remembered that while housing, health and accident insurance, old age pensions, mutual benefit associations, etc., etc., are unquestionably high points in a selling talk, the clincher which "puts it over" is a company's reputation for starting its welfare work in the pay envelope.

Have something to sell. Its quality is for you to determine.

Knowing the class of labor needed and the most fertile field to find it, the first problem is the selection of the man to do your recruiting. If your requirements are for skilled mechanics, the prime requisite is that the man selected be thoroughly familiar with your hourly and production rates, bonus systems, etc., and be able to answer without hesitation the score of questions which will be fired at him by the applicants he is to interview. In addition to these qualifications he should be well posted on your present housing conditions and industrial relations activities.

Too often the mistake is made of employing the professional labor scout, that is, someone outside your organiza-

tion. No one should be able to sell a proposition as well as one who is himself sold to it. The professional scout, of necessity, labors under the handicap of having sold in the past many propositions in which he did not believe, or, believing in, others failed to deliver.

Your best bet is the man upon whom you place the burden of delivering that proposition.

When you have selected your man provide him with quickly negotiable funds. Hundreds of men are lost daily because company representatives are compelled to postpone shipment of men for an hour or for a day while they await a telegraphic money order or a check through the mails.

The case is recalled of a recruiting agent who, after two days' of strenuous advertising and selling talks, secured seventy-two men. His funds came by telegraphic money order three hours before shipment was made but because personal identification was necessary in a city in which he was unknown he wasted two hours in a maze of red tape. He was finally identified to the satisfaction of the telegraph company by an elevator starter who knew a man who knew the man who tried to see him through. In those two hours the "other fellow," who had cash deposited to his credit at a local bank, corralled forty of his men.

Give your representative the same backing, freedom of action and opportunity to put things over, as your sales department accords its salesmen.

During the great labor shortage of the war and the two years subsequent, hundreds of recruiting agents of reputable industries found themselves seriously handicapped in their recruiting missions through failure to provide themselves with proper credentials.

The statutes and regulations of most of the Southern states east of the Mississippi effectively discourage recruiting of labor by industries located outside of the state limits, by requiring the company or its recruiting agent to purchase a license, varying in cost in the different states from \$500 a year to the prohibitive figure of \$1,500 per day.

Before dispatching a representative,

therefore, on a recruiting trip to any of this group of states, it is wise to familiarize yourself promptly with the statutes and latest rulings of their Departments of Labor and Industry. The Directors of these Departments are usually granted broad and flexible powers, so that they may most effectively meet the ever changing industrial conditions. A copy of these laws and rulings may be obtained by writing to the Director or Commissioner at the capital of the state in question.

The New England, North Atlantic, in fact most of the northern states east of the Mississippi, permit foreign recruiting, provided the recruiting agent presents proper credentials. These credentials should consist of a "To whom it may concern" statement upon the company's letterhead, and signed by an executive of the company, stating in substance that the bearer is an employe of the company and is receiving for his work only his usual salary or wages. While not imperative it is well to state also the class of labor he is seeking and the length of his services with the company.

It is well for the recruiting agent to have these credentials approved by the proper state officials in the city visited before engaging in his recruiting work. They may be submitted to the superintendent in charge of the local office of the State Employment Service, referred to later, or to the local district inspector, authorized by most of the states to supervise the activities of private employment agencies and the recruiting of labor by interests outside of the state.

Many of the states in the group last mentioned, notably, Massachusetts, New York, New Jersey, Pennsylvania, Ohio and Indiana, have for years conducted a state-wide system of free employment offices primarily for the use of their industries and residents, which by their taxes support them. A list of the cities of a given state in which these offices operate may be obtained by writing to the Director or Commissioner at the state capitol.

The policies of practically all of these state-wide services vary according to conditions. While the shortage of

mechanics in any one line of industry prevails, the state service may not co-operate with the representative of a foreign industry, although in several states the service, appreciating that a recruiting agent with proper credentials is permitted under the law to recruit men for shipment from the state, gives to him the same privileges as accorded domestic industries.

At the same time, therefore, that your representative has his credentials approved let him request permission to recruit through the local State Employment Office. If this permission is granted the representative will have assigned to him desk room or a private office where applicants may be interviewed by him. Thus, he is able not only to act with a greater degree of freedom than would be the case were his work confined to a hotel, but he has the advantage of interviewing the casual applicants who may come to the office in search of the same line of work as that for which he is recruiting. The better grade hotels prohibit labor recruiting, so that, if state coöperation is refused, it is often to the advantage of the recruiting agent, when a stay of a week or more is contemplated, to rent office or store space conveniently located.

In no line of the selling game does the psychology of advertising play a greater part than in angling for men. How much to say, in what papers to say, and how often to change the size, position and copy of the advertisement, are questions upon which much could be written.

A certain construction company needed carpenters. It placed its advertisement with newspapers at a time when the supply largely exceeded the demand. The company was well known and the rate, amount of overtime and job conditions were the best. By every rule of advertising the advertisement should have pulled. But it brought negligible results because instead of appearing under "carpenters" in the want columns it was lost in the "W's". The copy as submitted had started with the word "Wanted." In almost all want column advertising the first letter of your proof determines the location.

Two of the country's large industries use the blind advertisement exclusively except of course in home papers. In their cases, as in many others, this policy is perhaps judicious, as hundreds of their sales customers employ, in certain departments, the same class of mechanics as they do. Obviously, wholesale soliciting of their customers' labor, to say nothing of undue publicity, sometimes brings pressure to bear where it is most effective, namely, on the Sales Department.

On the other hand another and larger company, manufacturing an ever-increasing variety of products, inserts its name in all cases, capitalizing the reputation which years of fair dealing with its employes have earned it.

It usually resolves itself into the question of the quality of your offering. Particularly is the use of your name desirable if you are after construction labor, and have a reputation of providing good barrack and commissary accommodations. Concerns which enjoy such a reputation have little difficulty recruiting men, especially common laborers.

Often in the case of seeking skilled men it has been found that in stating many points about the job and particularly quoting rates, a boomerang is hurled. This is distinctly true where there is a shortage of mechanics in the trade for which you are recruiting. Take the case of a large woodworking establishment which was in need of cabinetmakers. A representative was sent to a city where a corresponding shortage prevailed. In its advertisements the company offered a rate twenty-five per cent above that prevailing locally. Immediately almost every allied industry not only met this increase, but successfully held its men by topping the bid to the extent of a forty per cent increase above the rate then in force.

It is not contended that these conditions would have been entirely eliminated by resorting to a blind advertisement, but certainly more effective results would have been obtained both from the standpoint of the company recruiting and its local competitors had not this wholesale publicity been practiced.

Conditions, like customs, change with the times, and the methods to be employed in advertising can only be determined by the man on the ground after a first hand survey.

These two brief suggestions are submitted:

1. State in your advertisements only enough to draw men to you for an interview. That and no more.

2. Insert the name of your company only if you believe it will effect better results. When in doubt, omit it.

When a shipment in appreciable numbers for a considerable distance is contemplated, it is economy in the long run to submit all qualified applicants to physical examination.

What this examination comprises is a matter for the Employment Department to determine. Certainly it should be as rigid as that to which all employes are subjected at the plant itself. As a matter of fact it would seem good policy to make it more rigid particularly where the transportation is ad-

vanced or ultimately refunded by the company.

Usually the State Employment Office can obtain an examining physician, possibly through local Police Headquarters, who will make an adequate examination at a fixed fee per capita, depending upon the number of men to be examined and the scope of the examination.

One of the country's largest shipyards, whose recruiting agents during the war shipped to the job thousands of men from every section of the country, estimates the percentage of rejections from the large cities at eleven per cent of the total number of qualified applicants. The saving therein effected by medical examination before shipment is apparent.

It is well for the representative to insist upon all men hired signing a memorandum of agreement stipulating the trade for which he is employed, the rate, and conditions pertaining to adjustment of transportation charges.

It is often found expedient to have this agreement executed in duplicate, the representative retaining the duplicate and forwarding the original to the employment officer on the job, either by the applicant, should he make the trip alone, or in such manner as seems best.

Have it signed or witnessed by your representative. He will need all the evidence available when he returns to the plant for it is a ten-to-one shot someone will claim he "misrepresented the job."

The methods of handling this problem vary widely in the cases of common and skilled labor. In handling common labor, the transportation must be advanced by the company regardless of any refund provisions. The American common laborer, both white and colored, is chronically "broke," while foreign labor, although thrifty, is in such constant demand at all times, that few of them will advance their own railroad fare even though given assurance in black and white that it will be refunded at destination.

This statement should be qualified somewhat in cases where the foreigner is handled under the padrone system or interviewed and brought to the job by one of his own nationality.

If the job is distant—say twenty-five to one hundred miles—the refund of railroad fare is often waived. When it becomes a matter of several hundred miles the deduction is made from the first pay or from consecutive pays, with the understanding, however, that should the employe remain on the job for a period of from thirty to sixty days, this entire amount will be refunded to him. This method is practiced with a view to holding the men with

the lure of a large cash refund. It has a distinct tendency to decrease turnover.

In the case of the mechanic, on the other hand, your company's needs must determine the question of advancing his railroad fare. With common labor you have substantially no choice. Obviously by advancing transportation, with or without refund provisions, you can obtain more men in a shorter time than if you compel the applicants to advance their own fare. But what is of infinitely more importance, you get better men by requiring them to pay their own railroad fare.

A striking case in point is recalled. A Pittsburgh construction firm needed structural iron workers. It placed its order for them with an employment office four hundred miles from the job. After explaining the job in detail the office gave letters of reference to twenty-five applicants who apparently qualified. The letter of reference to the Pittsburgh concern contained this clause:

"It is understood that his (the bearer's) qualifications as a first-class structural iron worker are to be determined solely by yourselves, and that if employed by you his transportation is to be refunded to him."

Twenty-five men read and by countersignature accepted these conditions, but only eighteen of them paid their fare to Pittsburgh. Those eighteen, however, passed muster at Pittsburgh and went on the payroll.

It is a pretty safe bet that when a man pays out his own money to locate as a cabinet maker you won't find him to be a hatchet and saw artist when he gets to the job.

It has been the practice of many of our larger organizations, when moving their executive staff or when employing a department head or technically trained man, to pay the cost of transporting household goods. Only a few months ago a corporation in the Pittsburgh district transferred a large percentage of its executive staff to a seaboard city where the company had completed an elaborate housing operation. Before the household goods were shipped, a blueprint of the house which each employe was to occupy was furnished him with instructions to locate thereon the desired position of each article of furniture he wished transported. The entire work, including crating, hauling at both ends, and placing the furniture in the new home "according to blueprint" was carried through by the company without expense to the employe, so that when he and his family arrived at their new home, they found it, "made to order" in the last detail.

The spirit which prompted this

broadminded policy toward old office employes actuated a similar policy on the part of a nationally known manufacturing company in the northwestern part of Pennsylvania when recruiting high type mechanics from out of town. This company's recruiting agent was authorized to employ men with the understanding that after they had worked a period of one month and desired to move their families to the city in question, the company would pay the crating, hauling, and freight charges for moving the household goods of the employe's family. Such a policy is desirable only when the man has proven himself a permanent asset to the company. Certainly, though, the principle of treating the loyal mechanic precisely as you treat the loyal executive or office employe is, to say the least, consistent.

When shipping a considerable number of men, say over fifty, it is profitable to make application to the local railroad station master for one or more

special coaches. This will enable the recruiting agent to keep his men together and free from the solicitations of competitors while en route. No money saving is effected, however, by this method. The question of meals, supplying the approved brands of tobacco in its various forms while en route, are all matters which require much foresight and more of forbearance on the part of the recruiting agent.

To summarize:

1. Be sure you have that "something" to sell.
2. Pick the best available man, and preferably the man who will help you deliver what he sells.
3. Provide proper credentials and funds in quickly negotiable form.
4. Coöperate so far as possible with the existing free State Employment Services.
5. Guard your shipment as you do your bank runner.

Architects Specification Book

OF interest to readers of AMERICAN INDUSTRIES will be the notice of a new publication just issued by The Truscon Laboratories, of Detroit, entitled, *Architects Specification Handbook*.

While from its name, the book would seem to be of interest to architects only, yet a perusal of its contents stamps it as a publication which would be of service to engineers in industrial plants and those having to do with the maintenance of building and equipment.

The *Architects Specification Handbook* is a specification book embracing structural waterproofing, oil proofings, damp-proofings, technical paint products, such as packing house enamels, swimming pool enamels, dairy enamels, mill white paints—cement floor hardeners, steel paints, and varnishes. It is a book of 108 pages, size 8½ in. by 11 in.

In its preparation, special emphasis was placed on arranging it in such a manner as to be of greatest convenience and utility to architects and engineers in their specification work, as well as to plant superintendents desiring advice and information on the proper application of various paints, varnishes and similar maintenance products.

So far as possible, each specification is confined to one page. No descriptive matter is interpolated into the specifications. Whatever descriptive

matter is necessary is kept entirely separate and distinct from the specifications, and will be found on the back of each specification sheet.

The book is bound very substantially in a heavy binder, and is arranged in loose leaf form the intention here being to make it convenient for offices who prefer to file their maintenance specifications according to some special classification—such as "Paints," "Varnishes," "Hardening Cement Floors," "Waterproofing," etc. It can also be retained intact as a book of ready reference.

A complete index of specifications arranged under appropriate headings—(Waterproofing, Damp-proofing, Architectural Varnishes, etc.) is given at the beginning of the book.

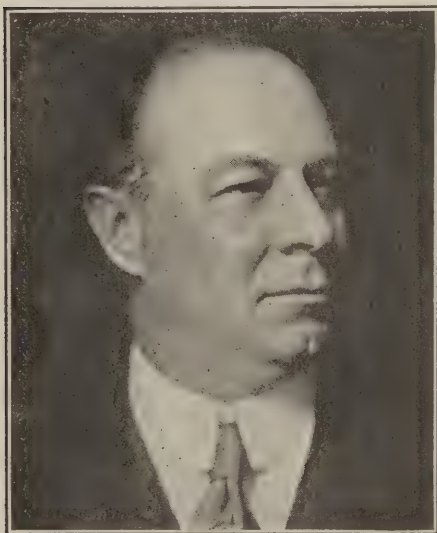
A copy of this Specification Book may be obtained by men in official positions in industrial plants, or other large institutions, by addressing The Truscon Laboratories, Detroit, on their firm letter-head.

ENGLAND HAS MORE JOBS

Although the employment situation in general continues to be unfavorable in England, improvement is noted in the coal mining, cotton, jute and wool textile industries and in the tin plate and clothing trades, according to a report received by the Department of Labor.

Bits of News About Men in Industry

ANSON W. BURCHARD, Vice-Chairman of the Board of Directors of the General Electric Company, has been elected President and Chairman of the Board of the International General Electric Company, succeeding Gerard Swope, its former President, who was recently chosen President of



Anson W. Burchard

the General Electric Company, and Charles Neave, former chairman of the International General Electric Company, who has resigned.

Mr. Burchard brings to the presidency of the International Company a wide experience in foreign affairs cultivated by personal familiarity with international engineering, commercial and financial problems. He has contributed largely to the development of the manufacturing facilities, financial resources and sales methods of foreign manufacturing and sales agencies in such a way as to greatly stimulate the expansion of the electrical industry abroad.

Mr. Burchard was born in Hoosick Falls, N. Y., April 21, 1865. After graduating from the Stevens Institute of Technology in 1885 with the degree of mechanical engineer, he was engaged in general engineering work with the J. M. Ives Company of Danbury, Conn., and later became treasurer and manager of the T. & B. Tool Company of that city. At the beginning of 1900 and for the next two

years his chief interest was temporarily diverted to the mining of copper and, as vice-president of the Cananea Consolidated Copper Company, he operated mines in the province of Sonora, Mexico. In 1902 he joined the organization of the General Electric Company and for the next two years was comptroller. In 1904 he became assistant to the president, and in 1912 was elected vice-president. In 1917 he was elected to the board of directors and this year was elected vice-chairman of the board. Mr. Burchard is also on the boards of the American Power & Light Company, the American Gas and Electric Company, Worthington Pump and Machinery Corporation, the Western Power Corporation, Central States Electric Company, Republic Railway and Light Company, Adirondack Power & Light Corporation, and the Electrical Utilities Corporation.

The American Engineering Standards Committee announces the following additions and changes in personnel:

F. J. Schlink, formerly of the Development Branch of the Engineering Department of the Western Electric Company, New York City, has been appointed Assistant Secretary of the Committee.

The Electrical Manufacturing Council has appointed A. L. Doremus, Crocker-Wheeler Co., New York City, as alternate for A. H. Moore on the Main Committee.

The Gas Group has appointed W. J. Serrill, United Gas Improvement Co., Philadelphia, Pa., as alternate for A. H. Hall.

The United States Navy Department has designated Commander Harvey Delano, Bureau of Ordnance, Washington, D. C., vice Commander H. F. Leary, to represent the Navy Department.

The United States War Department has appointed Major Glen F. Jenks, Ordnance Department, U. S. A., Washington, D. C., as alternate to Brig. Gen. W. S. Pierce, Ordnance Dept. U. S. A., Washington, D. C.

The Economy Fuse & Manufacturing Company of Chicago, Illinois, announces the appointment of Charles H. Bluske as District Sales Manager of the Los Angeles office at 1304 Maltman avenue. Mr. Bluske was formerly connected with the Pacific States Electric Company of Los Angeles, and succeeds Mr. George L. Davis. The Pittsburgh Sales Office of the Economy Fuse & Manufacturing Company has been moved from 2223 Farmers Bank Building to 1006

Peoples Bank Building at Fourth avenue and Wood street.

Announcement has just been made of the consolidation of the Foamite Firefoam Company, with general offices at 151 Fifth Avenue, New York, and O. J. Childs Company, Inc., of Utica, N. Y., in a program uniting these important fire protection interests under a new and complete service organization.

The Foamite Firefoam Company is well known through the work of its fire protection engineers in developing the application of the firefoam method of extinguishing fires to large industrial risks. The O. J. Childs Corporation brings to the new organization a record of successful manufacturing and merchandising which extends back to 1896. For several years the Childs Corporation has functioned as the manufacturing division of the Firefoam Company, making the Firefoam portable devices at its Utica plant. The present consolidation with the Firefoam sales and engineering organization is expected to give the new and larger company many manufacturing and distributing advantages.

At a meeting of stockholders on July 21, it was decided that the Company will hereafter be known as "Foamite-Childs Corporation" and the following officers were elected: W. J. Childs, president of the Childs corporation, president; F. M. Waters, vice-president; E. Janeway, secretary; and F. J. Maginniss, treasurer. James C. Patterson, director in full charge of sales. It has been announced that there will be no change in the sales policies of the consolidating companies. The executive offices will be located at Utica.

J. T. Chidsey, of Bristol, Conn., one of the most aggressive and successful industrial executives of good old New England, is president of The Root Company of Bristol, Conn., manufacturers of counters, hinges and stampings; president of The American Piano Supply Co., of New York; of The Chidsey Co., of New York; of The Chamber of Commerce of Bristol and has just been elected to the presidency of The American Piano Hammer Co., Inc.

This Company has been formed to combine the hammer departments of the Crane Felt Co., Belvidere, N. J., and the new piano hammer shop started last year at Bristol, Conn., by the American Piano Supply Co., New York, with the equipment they purchased at the time they purchased the hammer business of C. W. House & Sons. Headquarters will be in Belvidere, N. J.

Business Seen By A Business Man

Canvass made of various agricultural, manufacturing and financial groups gives good indication not only for the present status but predicts an ever-strengthening situation for the Fall and Winter

Written especially for AMERICAN INDUSTRIES

By **WALTER L. TODD**

Vice-President and General Manager, Todd Protectograph Company

IT was at a conference last May that we decided to call on our own sales forces resident in every part of the country for assistance in gauging the probable condition of business during the coming year. Many of the important phases of our production and sales campaigns are announced in August during the convention of our Premium Club salesmen who represent the highest producing sales element in our organization. There was, of course, available to us as always, innumerable trade reports and many excellent summaries of business conditions but this data was general in its scope and lacked the direct application to our business which was so essential if we were to be properly informed.

Therefore, it was determined to make our own researches in our own way and through our own organization. We believed that the result of this undertaking would have double benefits. In the first place it would obtain information through channels that were fully cognizant of the phases of business in which we were most interested, and second, it would develop a desirable personal stimulus in the sales force. The result of the research has more than fulfilled our expectation and in addition, it developed a third element on which we had not counted.

This was the interested coöperation of the bankers, manufacturers, and wholesale and retail merchants to whom our salesmen presented their printed questionnaires. In addition to the formal answers which were required, large numbers of bankers and manufacturers added explanatory typewritten statements in which they analyzed in minute detail the various elements governing the business situation in their particular territories.

The instruction to the salesmen who collected the information impressed on them the fact that upon the accuracy of the results obtained depended largely the success of an extended production and sales campaign that was in prospect.

The nature of our business, that of selling safety check paper and check protection devices to bankers, manufacturers and merchants doing a very large annual business and with well-organized means for gathering in their territories just the information we desired, gave our salesmen ready access to the most desirable sources and in every case they met with the heartiest coöperation.

The intensive canvass was directed to the task of gathering information on conditions and prospects in agriculture, manufacturing, and wholesale and retail trade, the questions being so phrased as to bring answers revealing the fundamental conditions governing each phase of the business outlined.

Less than five per cent of the bankers, manufacturers and merchants who collected information in their territories in reply to the questions reported business conditions as poor, and not one went on record as regarding the fall outlook for business as anything less than fair, good or excellent. The most significant single item shown by the compilation is that an average total of ninety-five per cent of last year's crops have been marketed, and as a result the purchasing power of the farmer is reported by ninety-eight per cent of the answers to be better than last year.

Under the agricultural group replies, the prospects for this year's crops were reported as good by forty-eight per cent, fair by twenty-seven per cent and excellent by twenty-five per cent.

In the manufacturing field fifty-five per cent of the replies showed the present condition of trade to be fair; forty-two per cent to be good; one per cent excellent; and two per cent poor. Prospects for fall trade under this group were reported good by seventy-one per cent of the answers; fair by twenty-four per cent, and five per cent excellent. An increase in employment in the country's manufacturing plants was expected by ninety-three per cent; while eighty-seven per

cent looked for good effects on business through the decrease in railroad rates, thirteen per cent regarding the decrease as being potential of no results either good or bad.

Trade in the wholesale field was reported as fair by sixty-five per cent of those reporting, with thirty-one per cent pronouncing it good. Only three per cent reported poor business.

Prospects for fall trade in the wholesale field were reported as good by sixty-four per cent of the answers; fair by thirty-three per cent, and excellent by three per cent. Outstanding credits were being met, sixty-three per cent of the replies showed, slowly or fairly slowly; while thirty-seven per cent showed collections to be normal.

In the retail trade fifty-nine per cent of the reports showed present business to be fair, with twenty-nine per cent good, three per cent excellent and nine per cent poor. Seventy-one per cent of the answers look for business in the Fall to be good, twenty-four per cent fair, and five per cent excellent. Not one reporting went on record as expecting poor business.

New York is the only state reporting one hundred per cent of last year's crops marketed, Montana coming next with ninety-six per cent. California, Connecticut, Florida and Washington, each ninety-five per cent; New Hampshire, ninety-four per cent; Massachusetts, ninety-three per cent; North Carolina, ninety-one per cent; Missouri, New Jersey and Oklahoma, ninety per cent each; Ohio, eighty-nine per cent; Louisiana, eighty-eight per cent; Georgia, Minnesota and Tennessee, eighty-seven per cent each; Arkansas and Utah, eighty-three per cent each; Indiana, eighty-two per cent; Nebraska and Texas, eighty per cent each; and Michigan, seventy-five per cent. The District of Columbia reports, which probably included and overlapped those nearby sections of the contiguous states of Maryland and Virginia, placed the marketing of last year's crops in its territory at ninety-seven per cent.

Considered regionally, the survey showed that the prospects for this year's crops were considered fair by 100 per cent of those reporting in Maryland, New Hampshire and North Carolina; good by 100 per cent of the replies from Florida, Louisiana, Michigan, Missouri, New Jersey, Texas and Utah; and excellent by 100 per cent of those reporting from Arkansas, District of Columbia and West Virginia.

Other reports on the crop outlook were: Fair, sixty-seven per cent of the replies from Georgia, Oklahoma and Washington; forty-three per cent from Indiana; twenty-two per cent from Tennessee; fourteen per cent from Minnesota and ten per cent from Ohio. Georgia was the only state reporting a poor outlook by thirty-three per cent of replies.

The outlook for good crops, in replies less than 100 per cent uniform in the opinions expressed, was: sixty-seven per cent from Montana, Nebraska and Tennessee; sixty per cent, Ohio; fifty per cent, Connecticut, Indiana and New York; thirty-three per cent, California, Massachusetts, Oklahoma and Washington; fifteen per cent, Minnesota.

The reports of excellent prospects, less than 100 per cent were: Minnesota, seventy-one; California and Massachusetts, sixty-seven; Connecticut and New York, fifty; Montana and Nebraska, thirty-three; Tennessee, eleven; Indiana, seven; and Ohio, three.

The purchasing power of farmers was reported better by 100 per cent of the replies in Arkansas, California, Connecticut, District of Columbia, Florida, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Hampshire, North Carolina, Ohio, Oklahoma, Tennessee, Texas, Utah and West Virginia. In Indiana ninety-three per cent reported increased purchasing power by farmers; fifty per cent in New York. Decreased purchasing powers were reported by seven per cent of the replies from Indiana.

The regional reports in the manufacturing field showed 100 per cent of the replies reporting present trade fair in Arkansas, Connecticut, Georgia, Michigan, Montana, New Jersey, North Carolina, Oklahoma, Texas and Utah. California, District of Columbia, Florida and Maryland reported it good in 100 per cent of the replies; while Massachusetts in thirty-three per cent of reports pronounced it excellent. The only states reporting poor business were New Hampshire and West Virginia. In New Hampshire fifty per cent of those questioned regarded business as bad. In

West Virginia thirty-three per cent held this view.

The following per cent of replies received reported "Fair business": Minnesota, eighty-six per cent; Louisiana, Missouri and Nebraska, sixty-seven; New Hampshire and New York, fifty; Ohio and Tennessee, forty; Washington and West Virginia, thirty-three; and Indiana, twenty-seven. Good business was reported by seventy-three per cent of the replies from Indiana; sixty-seven from Massachusetts and Washington; sixty per cent from Ohio and Tennessee; fifty per cent from New York; thirty-three per cent from Louisiana, Missouri, Nebraska and West Virginia; and fourteen per cent from Minnesota.

Prospects for fall business were reported fair by 100 per cent of the answers from New Hampshire; sixty-seven per cent from Nebraska, Oklahoma, Utah, and West Virginia; thirty-three per cent from New Jersey, North Carolina; twenty-two per cent from Ohio and Washington; and thirteen per cent from Indiana.

Good fall prospects were reported by 100 per cent of the replies from Arkansas, California, Connecticut, Florida, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Montana, and Texas; from eighty-seven per cent in Indiana, Missouri and Tennessee; from seventy-eight in Ohio; sixty-seven per cent in New Jersey and North Carolina; fifty per cent in New York and Washington; thirty-three per cent in Nebraska, Oklahoma, Utah and West Virginia. Excellent prospects were reported by 100 per cent of the replies from the District of Columbia.

An increase in employment in the Fall was expected in 100 per cent of the replies from Arkansas, California, Connecticut, District of Columbia, Georgia, Maryland, Massachusetts, Michigan, Missouri, Montana, New Jersey, New Hampshire, New York, North Carolina, Oklahoma, Tennessee, Texas and Utah; ninety-three per cent from Indiana; eighty-nine from Ohio; eighty-six from Minnesota; seventy-five from Louisiana; sixty-seven from Nebraska and Washington.

Decreases in employment were reported as looked for by thirty-three per cent of the answers from Nebraska and Washington; twenty-five from Louisiana; fourteen from Minnesota; eleven from Ohio; and seven from Indiana.

In the wholesale trade business was reported as fair by 100 per cent of the replies from Arkansas, Connecticut, District of Columbia, Florida, Georgia, Michigan, Montana, Nebraska, New Jersey, New Hampshire,

Oklahoma and Texas; by eighty-six per cent in Minnesota; seventy-five in Ohio; sixty-seven in Louisiana, Missouri, North Carolina, Tennessee, Utah and Washington; forty in Ohio and thirty-three in Massachusetts and West Virginia.

A good present business is reported by 100 per cent of the replies from California, New York and Texas; by seventy-five per cent from Ohio; by sixty-seven per cent from Massachusetts; sixty per cent from Indiana; thirty-three per cent from Louisiana, Missouri, Tennessee, Washington and West Virginia and by fourteen per cent from Minnesota. Business was reported as poor by thirty-three per cent of the replies from Utah, West Virginia and North Carolina.

Prospects in the wholesale trade for fall business were reported as fair by 100 per cent from Georgia, Michigan, Montana, New Hampshire and North Carolina; by sixty-seven per cent in Nebraska, Oklahoma, Utah, Washington and West Virginia; fifty per cent in Connecticut, Missouri and Ohio; thirty-three per cent in Massachusetts and New Jersey and by twelve per cent in Tennessee.

Reports from 100 per cent of the replies from the following indicated good wholesale business in the Fall: Arkansas, District of Columbia, Florida, Louisiana, Minnesota, and New York. Other reports for good business were Tennessee, eighty-eight per cent; California and New Jersey sixty-seven per cent each, Connecticut, Missouri and Ohio, fifty per cent each. The outlook was reported as excellent by thirty-three per cent of the replies from California, Nebraska, Oklahoma, Utah, Washington and West Virginia.

Collections were reported as normal by 100 per cent of the answers in the District of Columbia, Montana and Oklahoma. In California, Georgia and Massachusetts sixty-seven per cent reported normal liquidation of outstanding accounts; sixty-two per cent in Tennessee; fifty per cent in Arkansas, Connecticut, Massachusetts and Missouri; thirty-three per cent in Washington and twenty-nine per cent in Minnesota.

Slow to fair collections were reported by 100 per cent of the replies received from Florida, Louisiana, Nebraska, New Hampshire, New York, North Carolina, Ohio, Utah and West Virginia.

In the retail trade replies from only five states indicated that present business is poor. These states, with the percentages of replies received giving this estimate of present trade, were: Indiana, fourteen per cent; Nebraska, North Carolina and Utah, thirty-three

(Continued on page 37.)

Ports Of The Nation—New Orleans

Great development on the Gulf of Mexico now being realized as the result of the far-visioned efforts of men who pressed for a broader port policy contemplating both commerce and industry

Written especially for AMERICAN INDUSTRIES

By **WALTER PARKER**

General Manager, New Orleans Association of Commerce

TWENTY years ago forward-thinking men in New Orleans believed the United States would soon become a seeker of world markets for finished articles of trade, rather than for world outlets for the surplus raw products of forest, field and mine; that a time would come when the necessity for economy in business would force industrial development in the Mississippi Valley where the raw materials and food supplies are produced in close juxtaposition; that new markets of great promise were about due in Latin-America and the Orient, and that high cost of artificial transportation over mountain ranges to seaport would

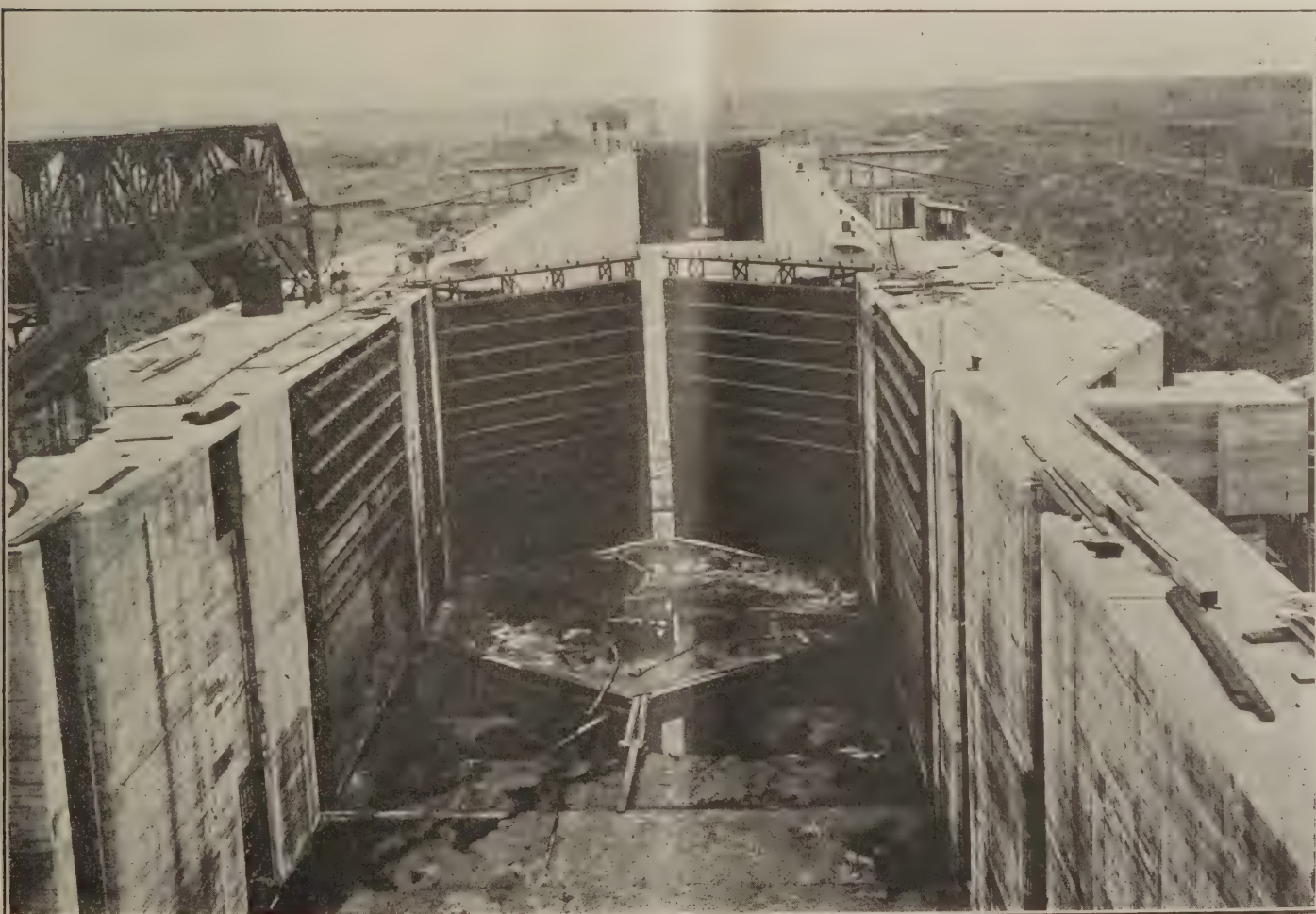
ultimately impel a re-creation of inland water transportation on the Mississippi River and its great navigable tributaries between the productive regions and uncongested seaports on the Gulf of Mexico.

Such was the prospective that gave rise to a great inspiration, and a determination to build at New Orleans an uncongestible port, based on the theory that economy, efficiency and dispatch in the handling of commerce would prove the best of investments in the shape of growth and prosperity.

At the same time, other far-visioned men pictured to themselves a possible lay-out in port equipment which would open the way for industrial develop-

ment at New Orleans on the large scale whenever the true factors of transportation economy should become apparent and active in American industrial life. They foresaw a day when high cost of domestic transportation, under conditions of keen world competition, would render back hauls unprofitable, and that under such circumstances many types of industry, particularly those using foreign material, and those selling at home and abroad, would discover many advantages to be gained from operating at a port enjoying peculiarly favorable transportation economy.

A generation ago New Orleans thought almost wholly in terms of



New Orleans Industrial Canal Lock accommodates 20,000 ton vessels

commerce. The articles of foreign trade, as it then existed, were visible and obvious. The South produced cotton, sugar and lumber. The Middle-West produced wheat and corn. Men could understand these things. To them the commercial development of the port would come with the building of wharves, handling plants, belt railroads and the like.

But Industrial Development—that was something else, something dependent on skilled labor supply, on transportation favoritism, on established channels of trade and the like. Most men accepted the status of transportation throughout the country as a fairly finished thing. Therefore, to them, industry in the main belonged to the favored centers of the North and East, and New Orleans could hardly hope to compete in such a field.

And so, two schools of economic thought developed in New Orleans. The one pressed for commercial development practically to the exclusion of all else, while the other, smaller in numbers, and its voice often unheard or misunderstood, pressed for a broader policy of port development which would fully care for both commerce and industry. Both schools are rapidly attaining their goals.

The French gave New Orleans complete public ownership of its entire river harbor frontage of forty-one miles.

In all other American ports, notably New York, Baltimore, Philadelphia and Boston, business enterprise was and still is free to purchase harbor frontage and use it for the purpose of industry and commerce.

Such has never until now been the case at New Orleans. Long ago, when river transportation enjoyed a monopoly of Valley commerce, no boat line could purchase and develop a terminal site at New Orleans. Neither could any ship line do so. At that time there was no spirit of public enterprise. So, very little was done in the way of harbor terminal development prior to 1900. A way was found to permit a few railroads to build and operate some river harbor front terminal equipment, and some industries, by sufferance, were permitted to occupy river front sites, all, however, subject to expropriation or removal at the public will.

In 1846 the foreign commerce of New York and of New Orleans was practically the same.

Thereafter the disability of Mississippi River boat lines, without efficient terminals or through bills of lading, made the way easy for the railroads then being built westerly and southerly from the North Atlantic seaboard to change the drift of Valley com-

merce from north and south along lines of low natural resistance, to east and west over mountain ranges.

The fact that Western Europe, nearer to New York than to New Orleans, was the great market for the surplus raw products of the Valley, helped bring about this change. Then, too, during the period of commercial development, New York had an open deep channel to the sea which could accommodate larger and larger ships, while New Orleans' deep ship channel did not become available until the completion of the Eads Jetties in the South Pass of the Mississippi River in 1879.

Ability of business enterprise to own harbor sites at New York and build any kind of terminal facilities, together with financial facilities then solely centered in New York, as contrasted with no such opportunity at New Orleans, helped this change along in no small way.

The Civil War gave huge impetus to New York, and left New Orleans without bouyancy.

In 1899 the Board of Commissioners of the Port of New Orleans was formed and in 1904 the New Orleans Public Belt Railroad Commission was created. One was charged with the duty of developing port facilities, the other with the building of a public belt railroad which would serve industry and commerce economically and well. Both have made remarkable progress in the carrying out of these purposes.

Thus far, the Port Commission has expended about \$40,000,000 in creating port facilities, while the Belt Railroad Commission has expended about \$2,000,000 in belt railroad construction.

There are 5.47 miles of public wharves, 3.82 miles with steel sheds, a covered area of 2,784,144 square feet, and an open area of 1,446,750 square feet, with a roadway length of 14,089 feet. This total of 4,230,894 square feet is increased by railroad and other private wharves to between 6,000,000 and 7,000,000 square feet, more than half of which is covered. There is, in addition, over 1,000,000 square feet of open river front storage contiguous to wharves, and an unlimited amount reachable by switch-tracks. There is a publicly-owned grain elevator with a storage capacity of 2,622,000 bushels, an unloading capacity of 200,000 bushels daily from cars, and 60,000 from ships and barges, and a ship and barge loading capacity of 100,000 bushels per hour. Seven other elevators give New Orleans a storage capacity of 7,572,000 bushels.

There is a publicly-owned cotton warehouse with an annual capacity of 3,000,000 bales.

During the war the Government

built a great terminal and warehouse system, which is now being used for general commerce. It covers forty-eight acres, and can store 178,500 tons of freight as follows: Coffee, 3,400,000 bags; sisal, 500,000 bales; cotton, 600,000 bales; tobacco, 150,000 hogsheads. 743 freight cars and from five to eight ocean steamships can be accommodated at one time.

There are public and private bunker coal facilities, extensive dry-docks, and all the equipment required by a great port.

These facilities and a changing world trade situation caused the foreign commerce of New Orleans to increase from 3,754,705 tons of cargo in 1911, to 11,131,256 tons in 1921. Including coastwise, the tonnage increased from 4,487,724 tons in 1911, to 12,933,530 tons in 1921. 2,153 ships of all flags served the port, in foreign trade only, in 1921. The value of New Orleans' foreign trade in 1920 was \$986,453,444. The value in 1921 was \$534,042,464, a decline of 45.8%, as against New York, \$3,062,481,353, a decline of 50.4%; Boston, \$225,285,486, a decline of 61.5%; and Philadelphia, \$252,970,770, a decline of 65.0%. New Orleans is easily second port in the United States, with Galveston third.

Meanwhile, the Industrial School of Thought has resulted in the building by the Port Commission of a ship canal through the city, connecting the river harbor with an arm of the Gulf of Mexico to the north of the city. A lock capable of accommodating a 20,000 ton ship controls the variable level of the river harbor and reduces it to sea level.

This facility has cost some \$20,000,000.

The basic law reserving the river harbor frontage to the public does not apply to lands which may be made harbor frontage through the digging of laterals into the canal. There are some 96,000 acres of now unused lands within the corporate limits of the city, and which possess a very low value, which can be changed into ship harbor front land by opening laterals into the canal. The Port Commission retains ownership of a strip of land on both sides of the main canal.

The idea is to make possible long term leases of publicly-owned sites on the canal, and the ownership and unrestricted use by business enterprise of sites near the canal and connected with it by laterals.

The strategic position held by the Port Commission, and the presence of an enormous area of low value land capable of being changed at very low cost into highly valuable privately-owned harbor front sites creates an uncommonly favorable opportunity for

industrial development, where rail, river and ocean transportation can be brought into complete economic juxtaposition with production, handling and storage.

Co-incidentally, New Orleans has developed a great training school for mechanics and trained labor of all kinds—the Delgado—where the pupils are instructed not only in the crafts but in the close relationship business and enterprise bear to the work trained workmen do.

A factor of the very greatest importance is the Mississippi Warrior Barge line, now three years old, which is operating at full capacity between New Orleans and St. Louis and between New Orleans and Birmingham, at 80% of the railroad rates, warehouse to warehouse. Unlike the old boat lines, which operated only from port to port, the barge line, through close coordination with the railroads, serves inland cities as well as river cities, at substantial saving on freight rates.

The Mississippi River Association, which is engaged in developing the economic life of the twenty-seven states lying between the Appalachians, the Rockies, Canada and the Gulf, is now employing all its power and force to bring about the completion of the channel improvement work on the Ohio to Pittsburgh, on the Missouri to Kansas City, on the Upper Mississippi, to Minneapolis, on the Illinois to Chicago, and on the Intra-Coastal canal leading from New Orleans to Brownsville, Texas, and from New Orleans to the Florida ports on the Gulf. In this way it is planned to extend the barge line to Pittsburgh, to Minneapolis, to Kansas City, and to give all Gulf ports connection by protected water craft with all the Valley.



Ships are loaded at hatches from both sides

With such equipment, New Orleans faces the new commercial and industrial era which was brought into being by the great war, with full confidence.

In order to sustain her progress and prosperity, America is now forced to pass from the status of a seller of raw material to the status of a seller of manufactured goods.

Europe, long America's chief customer for raw material, cannot offer the large market required for the sale of America's growing surplus factory product because Europe's industrial population must have employment, though Europe will continue a market for America's raw material.

Thus America must develop new markets, and logically turns to the world's new markets of great promise in Latin-America and in the Orient.

Faced by the necessity for scientific economy, America's transportation

problems have forced the use of the inland waterways in order to relieve congestion and save money.

The source of supply for the bulk of America's raw material, food, fuel and minerals is the Great Basin lying between the east and west mountain ranges, Canada and the Gulf, commonly called the Mississippi Valley.

To place America's increasingly important foreign trade on a permanently successful competitive basis with Europe, the process of translating the raw materials into the finished articles of commerce must be carried on within low cost transportation reach of the sources of raw material, fuel and food supply, and within easy reach of low cost, dependable transportation to foreign and to domestic markets.

For these reasons, the drift of valley commerce is now being rapidly changed back to north and south channels along easy grade railroads and natural water courses to uncongestible ports of easy access on the Gulf of Mexico.

Industry, more and more, is seeking development within the valley and at the valley's ports.

According to the Research Department of the New Orleans Association of Commerce, the Mississippi Valley, as compared with the United States as a whole:

Contains 54% of the total population of the United States, 66% of the rural, 58% of the native, and 61% of the home-owning population, 64% of the land, and 80% of the cropped land.

Produces 100% of the cane sugar, flaxseed, broom corn; 80 to 90% of the corn, wheat, oats, rye, rice; 70 to 80% of the barley, live stock, and total crops; 60 to 70% of the sweet



World's largest cotton warehouse—Capacity, 3,000,000 bales annually



Grain elevator can load five ships at a time

potatoes, hay, cotton, cotton-seed, beet sugar, cane syrup, sorghum syrup, wool; 50 to 60% of the potatoes, tobacco, cowpeas, peanuts, lumber, of the United States.

Produces 90 to 100% of the coal, coke, pig iron, iron ore; 70 to 80% of the gasoline, petroleum; 60 to 70% of the gas, potash, salt; 50 to 60% of the gypsum, pottery, of the United States.

Manufactures 80 to 90% of the agricultural implements, automobiles, iron and steel work; 70 to 80% of the automobile parts, butter, flour, meat, turpentine, rosin; 60 to 70% of the artificial stone products, carriage and wagon materials and carriages and wagons, cheese, engines, structural iron; 50 to 60% of the awnings, tents, sails, brick, terra cotta, coffee and spices roasted and ground, copper, tin and sheet iron, miscellaneous food preparations, furniture, glass, lumber, timber products, cottonseed oil cakes and meal, miscellaneous rubber goods, and 45% of all manufactures in 1919.

THE SECTION PRODUCES

80.8% of the wheat
61.6% of the cotton
99.0% of the cane sugar
61.6% of the wool
74.8% of the live stock
69.6% of all crops
52.9% of the lumber
91.7% of the pig iron

IT MANUFACTURES

Only 71.1% of the wheat products.
" 6.2% of the cotton goods.
" 42.4% of the confectionery.
" 4.5% of the woolen goods.
" 32.0% of the leather.
" 59.5% of miscellaneous food products.
" 29.8% of the pulp and paper.
" 22.1% of the hardware.

47.5% of the machine shop products.

32.1% of the electrical machinery.

63.4% of the engines.

There is no better evidence that industry is finding the port of New Orleans most strategically located, even in advance of the opening of the Industrial Canal, which has been constructed to facilitate industry in an uncommon way, than the record of industrial development in New Orleans.

New Orleans Industrial Canal will be open for business by the end of the year. Plans for its use are not yet complete, but will undoubtedly include provision for the development of related enterprises in close juxtaposition, for housing of employes with ample lot space for garden purposes, and, ultimately a deep ship channel con-

necting the canal with the Gulf of Mexico.

A great primary steel industry, using coal from the Warrior River mines, lime from the clam shells of Louisiana, and foreign and domestic ores, all of which will be floated from point of origin to smelter side, is a probability. The saving on transportation costs is counted on as an impelling factor. Grouped around the primary plant will be the several classes of steel and iron using enterprises.

Similarly, there will be ample provision for a timber, lumber and wood-working harbor. Latin-America, particularly Brazil, has many useful woods for which a market is needed. The Pacific coast has valuable timber to sell to Europe, but the European markets as a rule cannot absorb such timber in ship load lots. This would seem to indicate an opportunity for the establishment of a market of deposit and redistribution on New Orleans' Industrial Canal.

Then, there is the very extensive Southern yellow pine and hardwood industry which can be served by these new facilities at great saving.

The presence, in concentrated form, of a large and general timber and lumber commerce, cannot fail to result in a general wood working enterprise, and even in a paper pulp enterprise, using waste wood, since, from the chemical harbor nearby there will be available supplies of chlorine.

The chemical harbor will have enormous supplies of salt and sulphur, all within barge reach, from the mines of Louisiana. Oil from Louisiana, Oklahoma, Texas and Mexico is within easy reach.

In other words, the Industrial Canal development, which opens up as harbor frontage some 96,000 acres of



Marine leg at publicly-owned and operated elevator

now waste land creates for the first time in world history an opportunity to design and build the world's ideal port, without fear of future congestion.

The Board of Commissioners of the Port of New Orleans, realizing the magnitude of its opportunity, and of its obligation to the Mississippi Valley as a whole, is developing its plans with the greatest of caution.

In the matter of policy, the New Orleans Association of Commerce, after months of study and investigation, recommend the following:

(a) The Industrial Canal gives the Dock Board the opportunity to adopt the following four-phase policy:

1. Complete public ownership and operation on the river front.

2. Complete public ownership and private operation on short term leases of public utility harbors, on land west of the canal.

3. Public ownership with long term leases for private wharves on both banks of the canal.

4. Private ownership of land and buildings on land east of the canal.

(b) That the Dock Board control all water surfaces used for port purposes.

(c) That the Dock Board secure

(Continued from page 32.)
per cent; Ohio, ten per cent.

On the other hand present business was reported as good by 100 per cent of the replies from Texas; by sixty-seven per cent in Louisiana; fifty per cent in Indiana and Ohio; forty-four per cent in Tennessee; thirty-three per cent in Montana, New Jersey, Oklahoma and Washington; twenty-nine per cent in Minnesota.

Present retail business was reported fair by 100 per cent of the answers from Arkansas, Connecticut, District of Columbia, Florida Georgia, Michigan, New Hampshire and New York; by seventy-one per cent in Minnesota; sixty-seven per cent in Montana, Nebraska, New Jersey, North Carolina, Oklahoma, Utah, Washington and West Virginia; by fifty-six per cent in Tennessee; by fifty per cent in Ohio; thirty-six per cent in Indiana; and thirty-three per cent in Louisiana and West Virginia.

The replies from Massachusetts were exactly divided, an equal number declaring for excellent, good and fair conditions in present business.

Not a single reply was received among all the answers giving an expectation of poor business in the Fall. One hundred per cent of the answers from Arkansas, Connecticut, District of Columbia, Florida, Georgia, Louisiana, Minnesota, Missouri, Montana,

MANUFACTURES IN THE CITY OF NEW ORLEANS, LA.

	Census		Per cent of increase
	1919	1914	1914-1919
Number of establishments.....	873	733	19.1
Persons engaged in manufactures....	32,615	20,851	56.4
Proprietors and firm members.....	663	594	11.6
Salaried employes	5,311	2,909	82.6
Wage-earners (average number)....	26,641	17,348	53.6
Primary horsepower	52,507	37,133	41.4
Capital	\$125,162,000	\$53,989,000	131.8
Services	34,593,000	12,339,000	180.4
Salaries	9,979,000	3,801,000	162.5
Wages	24,614,000	8,538,000	188.3
Materials	113,308,000	40,561,000	179.4
Value of products.....	182,799,000	69,814,000	161.8
Value added by manufacture (value of product less cost of materials)..	69,491,000	29,253,000	137.6

from the Federal Government as soon as possible a deep water ship canal from the Industrial Canal to the sea.

(d) That the Dock Board secure such changes in our present laws, constitutional or legislative, as will enable it to acquire, by purchase or expropriation additional land abutting the canal and its laterals with power to resell same to private owners.

(e) That the Dock Board derive

its capital revenue from the sale of harbor qualifying privileges evidenced by certificates from the land east of the canal.

(f) That the Dock Board reduce, as far as may be warranted by its revenue, all harbor and port charges to the lowest possible point.

(g) That the Dock Board prepare a comprehensive plan in keeping with the above policy.

New Jersey and New York wrote down an expectation of good business in the fall. This opinion was coincided in by eighty-eight per cent of those reporting in Ohio; seventy-eight in Tennessee; seventy-seven in Indiana; sixty-seven in Massachusetts and North Carolina; fifty in Michigan; thirty-three in Nebraska, Washington and West Virginia.

The prospects for fall business were pronounced excellent by 100 per cent of the replies from Texas; and thirty-three per cent in Massachusetts and West Virginia.

In New Hampshire and Utah 100 per cent of the reports were for fair retail business in the Fall; sixty-seven per cent, in Nebraska and Washington; fifty per cent in Michigan; thirty-three per cent in North Carolina and West Virginia; twenty-three per cent in Indiana; twenty-two per cent in Tennessee; and twelve per cent in Ohio.

In studying the figures revealed by the answers as to their bearing on conditions by geographical divisions, a striking and gratifying conclusion was evident. That was that the high lights were widely distributed, that it was impossible to ink in shaded areas on the business map, and that no one section of the country canvassed had a monopoly on good present conditions or cheering expectations.

DON'T WASTE POSTAGE

In the last year or so many countries have been added to the list to which letters from the United States may be sent on payment of but two cents postage per ounce. As American manufacturers frequently have been accused of inattention in the matter of affixing the right stamps to foreign letters, particularly when the rate has been higher than the domestic, it may happen that the same oversight now results in putting on five-cent stamps where a two-cent stamp would suffice. Therefore the list of countries to which the two-cent per ounce postage rate now prevails is here given:

Alaska, Anguilla, Antigua, Argentina, Bahama Islands, Barbuda, Barbados, Bermuda, Bolivia, Buenos Ayres, Brazil, British Guiana, British Honduras, British Virgin Islands, Canada, Canal Zone, Colombia, Costa Rica, Cuba, Curacao, Dominica, Dominican Republic, Dutch West Indies, Ecuador, England, Grenada, The Grenadines, Guam, Hayti, Hawaii, Honduras, Ireland, Jamaica, Leeward Islands, Martinique, Mexico, Montserrat, Nevis, Newfoundland, Nicaragua, New Zealand, Panama, Peru, Philippines, Porto Rico, Redonda, St. Kitts, Shanghai, China, St. Vincent, St. Lucia, Scotland, Tobago, Tutuilla, Samoa, Trinidad, Virgin Islands of U. S., Western Samoa, Windward Islands.

Executives Class Studies Wood

THE largest class in kiln drying ever assembled at the Forest Products Laboratory, Madison, Wisconsin, has just completed its two weeks' course and gives excellent example of the men who are now assuming an interest in this most important study.

Cleveland, Ohio; F. E. Noble, Ed. Roos Company of Forest Park, Forest Park, Ill.; C. C. Cahill, Kelsey Wheel Co., Inc., Detroit, Mich.; Gardner R. Alden, Dennison Mfg. Co., Framingham, Mass.; Ben A. Ott, Segelke & Kohlhaus Mfg. Co., La Crosse, Wis.; E. J. Michel, Carr, Ryder & Adams

"What moisture content should automobile spokes have when kiln dried?" "What is the effect on the lumber of steaming it under pressure?" "Is sap-stained lumber as strong as clear lumber?" "How can golf club shafts be kept straight while drying?" "Can box lumber be dried so it will



This class was remarkable not only in size but in the high proportion of executives and men of experience. The wide variety of industries represented included manufacturers of automobiles, coffins, cedar chests, house furniture, clocks, golf clubs; even a brick manufacturer was there to study the best temperatures and humidities for his product. The men attending the meeting, shown from left to right in the photograph, are as follows: A. Kennedy, A. B. Chase Piano Co., Norwalk, Ohio; E. W. Brown, Seth Thomas Clock Co., Thomaston, Conn.; J. R. Cullum, Kansas City Shook & Mfg. Co., Wilson, Ark.; C. T. Darnell, Kraetger Cured Lumber Co., Greenwood, Miss.; Donald G. Morse, The Kroydon Co., Newark, N. J.; C. S. Sieling, Sieling Furniture Co., Railroad, Pa.; Roger J. Hipp, Long Furniture Co., Hanover, York Co., Pa.; Alfred Swift, North St. Paul Casket Co., North St. Paul, Minn.; Hoyt Moore, Standard Red Cedar Chest Co., Alta Vista, Va.; Anton Fara, Indiana Moulding & Frame Co., La Porte, Ind.; K. W. Dunwoody, Cherokee Brick Co., Macon, Ga.; F. Zimmerman, Jr., F. Zimmerman Co.,

Co., Dubuque, Iowa; and C. H. Ott, Nordyke & Marmon, Indianapolis, Ind.

The informality of the course and the discussions incident to the work brought out the diverse interests of the various concerns represented. Each man had his own problem, which came out in such questions as these:

not cup when resawed?" "What makes the lids of cedar chests or jewelry cases warp?" These and other questions were answered in the light of the technical information on wood accumulated during the past eleven years' research and study at the Forest Products Laboratory.

Town Stages A Comeback

THE Long-Bell Lumber Company, of Kansas City, Mo., will soon begin the manufacture of hardwood flooring at Longville, La., where the company's big yellow pine mill burned to the ground about a year ago. The fire fortunately did not reach the planing mill, dry kilns, storage sheds, or other equipment, and did not reach any part of the town itself. This has made it necessary to add flooring manufacturing machinery only to put the plant in operation. Two machines will be installed at first, and this number increased as the demand increases

and as the company finds it possible to obtain raw material.

Longville is situated on the Lake Charles & Northern Railroad between Lake Charles, La. and DeRidder, La. It is one of the most modern mill towns in the entire south—the Long-Bell Lumber Company having constructed it with the idea that it would always remain a permanent town, even after the timber in that locality had been manufactured.

With the opening of the flooring plant, about 300 men will find immediate employment.

World Wide Radio and Commerce

A few facts about existing wireless facilities that make the use of this method of swift communication of consequence to everyone and removes communities from isolation to civilization

Written especially for AMERICAN INDUSTRIES

By E. J. NALLY

President, Radio Corporation of America

THIS brief outline of some of the aspects of radio is written from a viewpoint not often presented to the public at large. My purpose is to show it as an auxiliary to commerce rather than to stress the more familiar keynote of the "wonders of wireless," which have been the subject of many articles in the daily press. True, it is very baffling, from a scientific "reason why" standpoint, but so is electricity, which no one has yet been able to define.

The single fact that radio communication is the one medium capable of placing isolated communities in instant touch with the centers of civilization has a boundless appeal to the imagination. That, too, it has forever ended the vast silences of the sea further adds to its romance. However, until it becomes a general household utility it will probably remain in the public mind as something very mysterious—a sort of witchcraft, interesting, but making little appeal for intimate acquaintance; and comparatively few people realize that this means of communication has already a fixed place in the world's affairs; that it is, in fact, an economic factor of major importance, and world-wide in its applicability.

The underlying reason for the rapid strides it has made is not because of its romantic, intangible or mysterious nature. Its important position in the field of communication is due solely to its utility, in combination with the three essentials of accuracy, speed and economy.

In addition to providing mariners with weather reports, storm signals and warnings of possible dangers to navigation, it enables passengers at sea to keep in touch with world affairs and with the movements of commerce and industry. Daily news bulletins are published on practically all of the ocean-going vessels and transactions of great magnitude and of momentous importance are being carried on constantly between ship and shore through the medium of radio communication.

In its international application, radio is to-day carrying overseas a very material percentage of the world's communi-

cations. Radiograms, commercial and social, aggregating millions of words annually, are being sent daily across



E. J. Nally

the Atlantic and Pacific oceans. These are regular paid communications filed just as cablegrams are, and delivered with the accuracy and speed so essential to the users of long distance communication. Direct wireless service is maintained night and day with Great Britain, France, Germany, Norway, Hawaii and Japan at rates which are from four to twenty-four cents per word lower than the cable rates. Economy being the keynote of commerce, the enormous total saving effected by the use of radio in the conduct of international communications makes it a matter of vital interest to everyone, and this interest has manifested itself in the constantly growing numbers of countries which are adopting radio as a means of communication, and which are constructing wireless stations with which to carry on this communication direct with other countries already thus equipped.

Another great advantage possessed by radio is what might be termed its universality, with reference to communication with several distant points at the same time. This was illustrated on the occasion of the formal opening of Radio Central, a super-powered sta-

tion of the Radio Corporation of America, located at a point on Long Island about 65 miles distant from New York City. On November 5th, 1921, President Harding threw a switch in the White House, and a message which he had prepared for broadcasting to the world ran through a mechanical transmitter and the words, carried by land wire to Radio Central, were flung into space without the intervening agency of a human hand.

The first answer came back instantly. Others followed close upon it. Acknowledgments were received from such widely scattered points as Norway, Germany, France, Italy, England, Belgium, Sweden, Canada, Cuba, Japan, New Zealand, Panama, Colombia, Costa Rica, Nicaragua, Honduras and Australia.

This fact of the universality of radio has a further application in the broadcasting of news, market, weather and crop reports, lectures, sermons, etc., etc., through the medium of broadcasting stations which are in direct communication with the thousands of wireless stations maintained by amateurs in all parts of the country, and in this respect it is of especial value to isolated communities, out of touch otherwise with current happenings and with the world's progress.

This branch of the radio service has awakened a wide interest in all parts of the world, and with the rapid development of the wireless telephone, persons in remote districts, as well as passengers at sea, are privileged to listen to concerts by famous artists in the large musical centers and to hear, not the dots and dashes of the telegraph code, but the exact words of spoken addresses, etc., etc.

Not a day passes but our daily papers carry stories of new accomplishments in this direction, and I venture the prediction that in the not-far-distant future radio sets, for both telephone and telegraph, will be a vital part of the equipment of every American home.

Contrary to the popular understanding radio has not come to us suddenly. It has been under development con-

tinuously during the past 22 years. Commercial radio communication, that is, overseas radio telegraphy, has reached a high state of development and has found its place in the commercial world.

Radio telephony has been under development during the last 15 years and during the late war successfully used in both one-way and two-way communication.

Popular radio, relatively short dis-

tance radio telephone broadcasting is the outcome of the realization of the vast possibilities of one-way transmission of news matter, vocal and instrumental music, lectures, sermons, etc.

Radiophone transmission from central, organized sources of information and entertainment makes it possible for the citizen to receive this service through the small investment involved in purchasing a radiophone receiving set.

It is not a communication in a two-way sense; radio broadcasting is the employment of a fairly well developed science to a new use. Broadcasting is the recent development—not radio.

The future of radio telegraphy, therefore, is assured. It already has a healthy and well-defined field. The future of radiophone broadcasting is another matter and in this we can speculate with only the imagination limiting.

Our Commercial Treaties

THE United States Tariff Commission has just issued under the title, "Handbook of Commercial Treaties," a useful contribution to the study of commercial treaties and tariff agreements. This volume is not merely a collection of treaty texts, but is a comprehensive analysis of the stipulations contained in the commercial treaties of all nations.

The bulk of the work consists of synopses or digests so classified as to exhibit the contents of any particular treaty in the most effective manner. For example, all stipulations in treaties granting "most favored nation treatment" or "national treatment" (or both, as the case may be), are brought together under those respective heads, so as to show at a glance the various subjects in regard to which such treatment is pledged by any given country to any other, and to what others. Similarly, the various subjects expressly excepted from a given treaty, and whether or not and how far the treaty applies to colonial possessions, are conspicuously shown under appropriate heads.

Needless to say, this work will be especially welcomed by those public officials and international lawyers of all countries who are directly concerned with the preparation, negotiation, interpretation, execution, or violation of commercial treaties, such as legislators, judges, diplomatic and consular officers, customs officers and Government officials or private corporations charged with foreign relations generally, or specially with the promotion of international commerce.

All these will hereafter be spared not only the preliminary search to determine what commercial conventions exist between the countries in question, but will have before them a carefully prepared, classified summary of what these treaties contain. In most cases such a summary is probably all that is needed in the first instance, and when full particulars are wanted this handbook gives definite reference in each case to volume, page and article of the

treaty, so that the authentic text of the stipulation in question may be found at a moment's notice.

At the present time there is no such guide to international treaties, and even the texts are available only in comparatively few places. No digests or summaries of any country's treaties have ever been published, and the original texts are in some cases scattered among masses of obsolete matter, through ponderous volumes in the various languages. There are only two general collections of treaty texts: "British and Foreign State Papers" and DeMartens' "Recueil General de Traites," but as these are very voluminous (109 and 95 volumes respectively), and as many of the texts are without English translations, they are accessible only in a few places having large libraries, and then only to those who are conversant with the foreign languages concerned. These drawbacks and difficulties are remedied to a great extent by the summaries sup-

plied in this new publication.

Besides the digests of treaties, the volume contains chapters setting out the established principles of international law regarding negotiations and operation of treaties, and comprehensive chronological lists of treaties in force between all nations. An appendix brings the work down to March, 1922, and lists separately the treaties containing conventional tariffs, or pledging most-favored-nation treatment in regard to customs duties.

In a word, this book is a new departure, an innovation in the literature of international treaties. No such analyses of commercial treaties—or of any other treaties for that matter—have ever been published in any language. Moreover, the unsettled state of international relations and the readjustments of commercial policies and tariff arrangements now in progress all over the world make this remarkable publication as timely as it is original and useful.

Span Of A Hundred Years

IN 1816 a New England newspaper summarized the arguments—torrid and portentous—against the introduction of gas for street lighting. They apparently left little to be said for the new illuminant. They contended that

1. Artificial illumination was an attempt to interfere with the divine scheme of things which had ordained that it should be dark at night.

2. Emanations of illuminating gas were injurious. Lighted streets would incline people to remain late out of doors, leading to increase of ailments by colds.

3. Fear of darkness would vanish, and drunkenness and depravity increase.

4. Horses would be frightened and thieves emboldened.

5. If streets were illuminated every night, such constant illumination would

rob festive occasions of their charm.

However, gas persisted, and the evils feared did not come to pass. Gas gave place to electricity, a far more brilliant street illuminant, in most communities.

Now—

Even the strictest theologians would not cavil at brilliant illumination of streets at night.

Youth and old age, promenading under the white lights, have no fear of illness from night air.

The police and public officials generally know that good street lighting is one of the most effective deterrents of crime.

Carnivals, street fairs and the like merely add to the number and brilliance of their lights to surround themselves with a blaze of illumination greater than they have to compete against.

Business
in
the
Far-Away
Lands

WORLD TRADE

CONDUCTED BY
WILLIAM M. BENNEY

*Manager of the Foreign Trade Department of the
National Association of Manufacturers*

Business
Opportunities
in
Other
Countries

The Mexican Business Situation

Labor and other troubles gradually being overcome—optimistic viewpoint of a correspondent of the National Association of Manufacturers, who is an old-time resident of the Mexican Capital

THE crisis in Mexican commercial affairs which occurred about two years ago, as in other countries, was brought about by the over-purchasing for spot cash of merchandise of all kinds, coupled with the long delay in shipments and consequent damages to goods caused at the various ports of entry on account of freight congestion. These conditions as in other countries have resulted in delayed liquidation and slowing up of trade all around.

The pecuniary losses arising from this condition of affairs naturally caused depression in the domestic market and business men voiced their complaints to a degree which tended to exaggerate the situation so that the timid or conservative ones abstained from spending money even for much needed goods, preferring to keep control of their cash as far as practicable by transferring it to banks in the United States or Europe, or even hiding it in secret places at home.

The result was a tightening of the money market and the popular excuse now prevalent for refraining from a commercial transaction of "No hay dinero," there is no money, is the logical outcome.

It sounds very well in the abstract to boast that Mexico is on a sound and safe currency basis, using only gold, silver and bronze coins in her transactions. These surely represent real values in the accepted international sense, but iron and steel are of more real use to mankind than are these so-

called precious metals, which we can get along without, whereas the baser metals are absolutely necessary to our comfort and existence.

For large commercial operations and for banking transactions of all magnitudes (aside from the usual bank securities and documents, representing certain fixed values, and so accepted in good faith), a well guaranteed paper currency is the proper medium.

One has only to visit the banks, post office, express companies and commercial houses in this capital city to note the bulk of gold and silver coins that is passed over the counters, having to be counted mostly piece by piece, the time lost in doing this and the risk in transporting bags of coin from place to place, to realize that an actual wholesale business is extremely difficult to carry on by means of metallic money only.

The successful outcome of the conference held between Mr. Adolfo de la Huerta, the Mexican Minister of Finance with the syndicate of international bankers at New York recently, has already kindled a spirit of hope and confidence in all circles and the probabilities of a harmonious arrangement with the heads of the petroleum corporations is also a favorable augury for the coming prosperity of Mexico.

If, as the press informs us, the leading United States bankers are considering the arranging of a loan to Mexico for the purpose of stabilizing

and guaranteeing the emission of paper currency of the proposed "Banco Unico" de Mexico, and this bank becomes a real and safe financial institution of credit, then we shall have real paper money and the difficulties above mentioned as to money operations will disappear and commercial transactions will be greatly facilitated and stimulated.

In my business, I come in contact with owners and managers of industrial plants of many different kinds and most of these need new equipment and some have already favored me with their orders, but many have postponed purchasing, owing to conditions prevalent up to date. As these conditions improve so will they take courage and improve their plants.

Recent events seem to indicate that one great source of worry to the Mexican manufacturer and industrial plant owner will be gradually overcome. I refer to the exactions of the labor unions, which unions have recently met with serious checks at different points in this republic.

The Mexican artisan, skilled mechanic, and ordinary day laborer, taken as an individual is a cheerful and a contented being, and easy to get along with, but, with his confiding nature, he is easily influenced by agitators and is prone to believe whatever the walking delegate tells him. This is the cause of the labor disturbances, and with the elimination of the agitators, harmony between manufacturer and laborer will be restored.

If it is true that the national railways are soon to be restored to their former owners and managers, another serious source of detriment to business will be removed, as tariffs will then be so regulated so as to aid in the development of the many local industries and enable these to ship their products to other points in the re-

public with profit to themselves and to their communities.

I have maintained right along that the results of the recent bankers' conference would be favorable to this country, and I have the same confidence in the early recognition of the Mexican Administration by that of the United States.

Once this has come to pass then Mexico will forge ahead and all of us, natives as well as foreigners, will have plenty of business to attend to, besides having the time to again enjoy the good things of life as we did in days gone by amidst the pleasant surroundings of this very hospitable country.

Merchandise Marks In Britain

THE British Board of Trade has drafted and introduced in Parliament a new bill amending the Merchandise Marks Act.

Part I of the bill provides that the Board of Trade after inquiry, may make an order requiring indication of origin to be given in the case of goods where a false impression as to their origin is likely to arise by reason of their form, style, finish or otherwise.

Section 2 gives power to prohibit the application to goods of national or public devices where it appears that such application is calculated to lead any person falsely to believe that the goods are made or produced in the United Kingdom or some other part of the Empire.

Where a trade description is alleged to be false by reason of its being an indication of production in some town, district, or other place in which in fact the goods were not produced, any person there engaged in manufacturing, selling or dealing in such goods may take proceedings as if he were the person aggrieved.

Section 4 prohibits the importation into the United Kingdom of:

(a) Goods to which there is applied a forged trade mark, a false trade description, or to which a trade mark is falsely applied within the meaning of the Act.

(b) All goods made or produced outside the United Kingdom which bear any name or trade mark being,

or purporting to be, a name or trade mark of any manufacturer, dealer or trader in the United Kingdom, unless accompanied by an indication of origin.

(c) Any goods in the case of which an indication of origin has been ordered under the Act, unless it be given.

(d) Any goods to or in connection with which a national or other public device is applied in contravention of the provisions of an order under the Act, unless the device is accompanied by an indication of origin.

Section 5 makes some exceptions and Part IV deals with the exercise of the powers of the Board of Trade under the Act.

Industries Fair In Norway

THE two former industrial fairs in Norway, held in 1920 and 1921, proved a great success, and aroused keen interest at home and abroad. It has therefore been resolved to hold the Fair again this year. This third Industries Fair will also be held at Christiania, during the week of September 3-10.

The number of entries last year was a very large one. Practically every branch of Norwegian industry and handicraft was represented, and exhibits were sent in from every manufacturing center throughout the country.

The object of the fair is to promote the sale of Norwegian products and manufactures in home and also in foreign markets. It therefore constitutes an important link in the work for the furtherance of Norway's foreign trade. Foreign buyers are thus afforded an excellent opportunity of acquainting themselves with Norwegian products and manufactures of every description, and of getting into closer personal contact with firms in every line of trade.

Twenty-two groups of products will

be represented in the exhibit this year. As the farmers of the country have manifested great interest in the Fair a new group has been organized under the name of the "seed-and-grain-group."

At the Fair two years ago the number of exhibitors was 280 and the value of trade transacted amounted to almost 9 million kroner. In 1921, these figures had risen to respectively 406 and over 11 million kroner. It is expected that they will be even larger this year. Business men planning to visit the fair should communicate with the Trade Intelligence Bureau of Norway at Christiania for further information.

COTTON CONGRESS AT RIO

Brazilian and Foreign delegates will meet at Rio de Janeiro, October 10 to 18, under the auspices of the National Society of Agriculture in Brazil.

They will study questions bearing on the development of cotton produc-

tion, the selection, milling, grading, baling, shipping and trading of, and the fiscal duties for cotton and its by-products; measures of international character to prevent the propagation of cotton diseases and insect pests; the spinning and manufacturing industries; the coöperative associations, rural credit coöperative societies, and exchanges for cotton; international cotton reserve, and finally, the examination of any other subjects of interest to the production and commerce of cotton, and the presentation of memories and conclusions.

Monographs for study by the Congress, should be sent to the Executive Committee (Rua 1° de Marco No. 15, P. O. Box 1245, Rio de Janeiro) at the earliest date, possibly up to a month before the installation of the Congress. They may be written in Portuguese, Spanish, Italian, French, English or German.

AUSTRIA'S STEEL TRADE GROWS

The steel production of Austria amounts to about 75 to 80 per cent of the pre-war production, according to a report received by the Department of Labor.

FOREIGN TRADE OPPORTUNITIES

The inquiries for American goods received by the National Association of Manufacturers from abroad will now appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

MEXICO

Machinery for manufacture of furniture. Complete equipment in every detail; also apparatus for cutting and beveling plate glass and mirrors; also lumber and supplies used in the manufacture of furniture and mirrors, are required by a manufacturer in Mexico. (421)

Ceiling and wall electric fans with lights attached thereto, suitable for a very high-grade restaurant in Mexico City. The inquirer desires catalogues and quotations on the above, together with information as to how soon shipment can be made after receipt of order. (422)

Fixtures and equipments for stores and commercial establishments, show-cases and showcase hardware, are of interest to a dealer in Mexico City. Correspondence in Spanish. (423)

Edible oils, rice, pure and compound lard, laundry soap, butter in cans, wrapping paper, laundry blue, condensed and evaporated milk, oatmeal in cans, biscuits, sardines, flour, cocoa in tins, starch, spices of all kinds, evaporated and preserved fruits, table salt, relishes, canned meats and vegetables, smoked ham and bacon and cane knives for agricultural purposes are of interest to a merchant in Mexico. Correspondence in Spanish. (424)

ECUADOR

Tobacco stem flattening machines with capacity of 500 pounds a day, are of interest to a manufacturer of cigars and cigarettes in Ecuador. (425)

PERU

Plain and colored glass, aluminum ware, straw paper for wrapping, soap machinery and supplies, brooms, perfumery, butter, flour and food-

stuffs generally, milk in powder and evaporated forms, salmon, sardines, etc. for Peru. A manufacturers' agent and merchant desires to hear from American manufacturers. (426)

REP. OF COLOMBIA

Beds and cots for household use, metal and other racks for hats, coats, etc., wash stands, bath tubs, bath room equipment, baby carriages and go-carts. A firm of merchants desires to hear from American manufacturers of the above. Correspondence in Spanish. (427)

BRITISH HONDURAS

Textiles of all kinds, children's clothing, groceries, confectionery, drink powders, toilet preparations, perfumeries, jewelry, cutlery and silverware, boots and shoes, sporting goods, games and toys, electrical supplies, musical instruments, sheet music, books and music rolls, rifles and shot guns, notions of all kinds, leather goods, paper and stationery, books and magazines, glass, crockery and chinaware, automobile accessories, furniture, office supplies including typewriters and adding machines, hardware, clocks, watches, etc. The inquirers are a firm of general importers and commission merchants and desire to secure American representation in the above. (428)

ARGENTINA

Bicycles, rope and twine, tin plates, milling and textile machinery, coffee, sugar and rice machinery, barbed wire and fencing, house furnishing supplies of all kinds, optical goods, musical instruments and materials, paper, photographic supplies, foodstuffs, canned and bottled goods, chemicals and dyes, cotton, silk, artificial silk, and woolen yarns for hosiery and weaving purposes. A firm of merchants in Argentina desires to hear

from American manufacturers with a view of obtaining their agencies for Argentina. (429)

BRAZIL

Gold-filled jewelry, particularly cuff buttons, rings, cigarette and vanity cases, etc., fine gold neck chains, optical goods of all kinds particularly of the cheaper qualities, manicure and toilet articles, clocks and watches and fancy goods generally, are of interest to a firm of merchants in Brazil. Correspondence in Portuguese. (430)

FREE Factory Sites

LOCATE YOUR FACTORY IN FLINT

Good Transportation
—Power

FLINT IS OPEN SHOP

Strikes Unknown
Making Labor Conditions
Ideal

North End Community Association

124 W. Kearsley Street

FLINT, MICHIGAN

CUBA

Tin cans or packages with cover and sifter, similar to ordinary talcum cans and to be furnished with label provided by inquirer. Quotations and full data are desired. Correspondence in Spanish. (431)

Linoleums, carriage carpets, rugs and felts, whips, carriage varnish, saddlers' and shoemakers' supplies and tools of all kinds, puttees and apparatus for strapping boxes, rain coats, saddlery, carriage and automobile hardware, sewing thread, leather and skins, duck and canvas. A firm of merchants in Cuba desires to hear from American manufacturers. Correspondence in Spanish. (432)

Sugar mill supplies of all kinds including machinery and equipment, twine, chemicals, oils, rolling stock, etc., all orders secured for such material to be against payment guaranteed by banks; complete materials including all classes of goods and equipment used by builders, orders for such material to be taken on 30, 60 and 90 days credit, approved by Havana banks; provisions and foodstuffs, orders for these to be taken against 30 days drafts; dry goods, hosiery, underwear, piece goods of all kinds, haberdashery and tailors' supplies, in fact, department store supplies generally, orders for these goods secured at 60 days. The inquirers desire to secure American connections in the above for Cuba. (433)

PORTO RICO

Glass working and beveling machines, also machinery and apparatus of all kinds for the manufacture of mirrors, including apparatus for quicksilvering mirrors are of interest to a firm of merchants in Porto Rico. Correspondence in Spanish. (434)

Orange grating machine for Porto Rico. The inquirer desires catalogues, quotations and full data regarding weight and dimensions, packed for export. (435)

Dining room, living room and bedroom furniture, confectionery, silk and cotton hosiery and socks, silk ribbons and silk piece goods, men's silk shirts, neckwear, etc. A merchant in Porto Rico desires to secure American agencies in the above. (436)

Cutlery, hardware, sheet and building glass, furniture, lamps, linoleum, crockery and glassware, textiles, hats, boots and shoes, underwear, hosiery, writing paper and stationery, games and toys, food products, particularly preserves, etc. A firm of man-

ufacturers and wholesalers in the ready-made clothing lines desires to secure American agency connections in the above. Correspondence in Spanish. (437)

TRINIDAD, B. W. I.

Writing pads and paper, note books, stationery, bond paper, envelopes, wrapping paper, paper bags, etc. A firm of manufacturers' agents in Trinidad desires to secure American agency connections in the above lines. (438)

DUTCH GUIANA

Flour, pickled beef and pork and packing house products generally, for Dutch Guiana. The inquirer desires to secure American agency connections. (439)

GREAT BRITAIN

Shirtings of cotton, wool, and cotton and wool mixture for Great Britain. The inquirer states that he is well introduced with shirt and pajama manufacturers and could do a large business as agent for American goods in this line in Great Britain. (440)

IRELAND

Wearing apparel for men, women and children, including boots and shoes, gloves, haberdashery, hats, underwear, etc.; household and miscellaneous furnishings, furniture, textiles of all kinds for men and women and department store goods generally. The proprietors of a large department store business in Dublin, Ireland, desire to hear from American manufacturers of goods of all kinds suitable for department store trade. (441)

FRANCE

Patent medicines and pharmaceutical products of all kinds for druggists and perfumers are of interest to a merchant and manufacturer in France. Correspondence in French. (442)

Single-head or two-head tapping machines for tubes of 60 to 300 millimeters outside diameter. Cost of machine should not exceed 30,000 francs delivered in France, all duties paid. Quotations, including illustration or drawing are desired. Correspondence in French. (443)

Foodstuffs of all kinds for France. The inquirers are prepared to handle stocks of food stuffs and general provisions and desire American agency connections. Correspondence in French. (444)

HOLLAND

Metal doors and windows for industrial buildings, safety deposits and

vaults, and steel office furniture. Inquirers in Holland desire catalogs and price lists on the above. (445)

NORWAY

Waterproof cloth of all kinds for sporting wear, motor caps, gloves and outfits generally, rain coats, boy scout outfits, etc. The inquirers desire to secure American agency connections in the above. (446)

DENMARK

Prepared cereals and foods, and other goods of general household use for Denmark. The inquirers desire to secure American agency connections. (447)

Small pressed screws of brass and iron used in the manufacture of electrical devices. The inquirers desire to secure American agency connections in the above. (448)

SPAIN

Textiles of all kinds, and dry goods generally, also food products for Spain. The inquirers desire to hear from American manufacturers with catalogues and quotations in duplicate, for their Spanish and African offices. They add that all their orders will be accompanied by irrevocable credits. They also add that they are especially, buyers of full cargoes of corn, oats and barley for cattle feed, and would prefer to receive quotations, Spanish ports. (449)

Stone working machines, hand and power operated; cement and concrete pipe making machines and sand mixing screening machines to be operated by hand and power, are of interest to an architect in Spain. (450)

Sulphate of ammonia for Spain. The inquirers state that good business can readily be done in this line, and are therefore, desirous of hearing from American manufacturers. Correspondence in Spanish. (451)

PORTUGAL

Motorcycles, mineral oils, belting, gasoline lighting plants, typewriters, etc. A merchant in Portugal desires to hear from manufacturers and exporters of the above. Correspondence in Portuguese. (452)

ITALY

Tin strips and sheet tin, copper ingots, sheets, wire, tubes, rods and discs; zinc in ingots and sheets, iron in bars, sheets, beams, pipes, etc. A firm of merchants and manufacturers' agents in the metal goods line, desires to represent American manufacturers. Correspondence in Italian. (453)

Brazil's Exposition All Ready

Tourists arriving now will find buildings and grounds completed and all plans made to provide features of interest for all, from business and commercial delegates to the scientific groups

BRAZIL'S great Centennial Exposition, in which the United States will be officially represented, will open one month from now. Tourists arriving in Rio de Janeiro about the middle of this month will find the buildings and grounds practically completed, according to Colonel D. P. Collier, the Commissioner General, who has returned to Brazil only recently.

The exposition proper extends along Rio de Janeiro's waterfront, reached by the beautiful wide boulevard Avenida Rio Branco, considered one of the finest streets in the world. Foreign countries have an "Avenida do Nacaes" (Avenue of Nations) stretching along the shore, where the United States, England, France, Portugal and Italy have erected permanent buildings.

Of these, all but Italy will use the buildings later for embassies, while Italy will use hers for a school for

Brazilian-Italian children. This will be the first embassy owned by the United States. It is a beautiful building, with land approximating 90,000 square feet.

Brazil has buildings of Spanish and Portuguese type to house exhibits of every department, with agriculture taking a prominent place. Live stock, manufactures, commerce, sociology, education, transportation, military science, fine arts and every branch of Brazilian enterprise and government has its own exhibit, showing Brazil's remarkable development during the past hundred years.

Should the visitor become weary of constant attendance at the exposition and desire to take a turn at sightseeing, the Brazilians proudly maintain that they have the handsomest city, the finest river trips and the most wonderful harbor in the world. One of the trips that tourists are cautioned not to miss is the aerial trolley ride to the top of Sugar Loaf Peak, 1,300 feet high, which guards the entrance to the Bay of Guanabara. From here is spread a marvelous view of the bay, with its islands, the river winding into the distance and the city lying along the shore. Mountains, hills, tropical verdure and the sea combine to give a setting for the exposition unrivalled for its scenic beauties. This trip is one of many in store for the hundreds of American visitors to the exposition.

Rio de Janeiro is a city of more than 1,000,000 people. All educated Brazilians are fine linguists, so visitors with only a knowledge of English will find ready assistance.

Brazilian officials have been making moving pictures of their various activities to show the visitors that South America is not behind the world even if it is south of the Equator. They have collected specimens of the fauna and flora of the republic, historic relics, examples of every known manufactured article and exhibits to show the progress made in the past hundred years in the development of natural resources. Transportation, a tremendous cattle show, a textile exhibition that will surprise those who think of Brazil only as an agricultural country, development of commerce and the best to be found in arts and sciences, each has its place in the large and well-

equipped buildings now taking shape. The big exhibits like machinery and locomotives find ample space at the opposite end of the Avenida do Nacaes, in the vicinity of the new docks and warehouses.

Rio de Janeiro has been mindful of the creature comforts of her visitors, and magnificent hotels have sprung up. The weather man is also doing his best to help make people happy, for he declares September, October and November the best months in the year and promises warm but not hot days, and cool, comfortable nights. Sanitary conditions in the city are excellent.

Those who want greater variety than that provided by sightseeing and the Exposition will find Olympic games, international and scientific conferences, and every sort of entertainment in progress.

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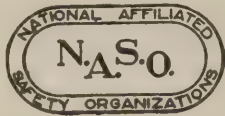
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The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

because it has been described as "Another United States in the Making" it may be worth while to know that Brazil is 200,000 square miles larger than our country and covers one-fifth of the Western Hemisphere. It includes one-half of the area and half the population of South America. It touches every South American country, except Chile and Ecuador, has

25,000 miles of navigable rivers and 6,000 miles of seacoast. Rio de Janeiro itself covers 61 square miles. The Mayor is assisted by seven boards, representing the seven branches of municipal activity.

Herbert F. Gunnison, publisher and vice-president of *The Brooklyn Eagle*, has been selected as New York State Commissioner for the Exposition.

Brazilian Trade And The Fair

IN the latest issue of the *Foreign Trade Review*, published by The National Shawmut Bank, of Boston, attention is directed to the opportunity for American exporters through participation in the Brazilian National Exposition which will open September 7, and continue for seven months to March 31, 1923. Our improved trade position with Brazil is reviewed and reference made to the trade recovery of Germany and other European countries in the Brazilian market.

That upwards of thirty European nations have already manifested their purpose to participate in the Exposition with industrial exhibits indicates that the commercial world is keenly alive to the opportunities which the Exposition represents.

The Exposition grounds cover an area of 160 acres and are divided into a national and a foreign section. As originally planned, it was to be a national affair devoted in part to a showing of Brazilian industrial enterprise. Increasing interest, however, in the Brazilian market compelled the expansion of the idea and the inclusion of a foreign section, so that the Exposition, to a large extent, will be representative of world competition among foreign exhibitors seeking to win South American trade. Sixteen nations have recognized the Exposition officially, and are erecting elaborate buildings to house their government exhibits. The United States Government has appropriated \$1,000,000 for American participation, and a beautiful pavilion is being erected for the United States Government exhibit. This building, upon the close of the Exposition, will be used as the American Embassy quarters.

To meet the demand of foreign manufacturers and exporters for representation, a special section of the area adjoining the Exposition grounds has been laid out as an exhibition annex. In this area, foreign firms or organizations are permitted to erect the necessary buildings or pavilions for their exhibitions.

Complete statistics of the trade of Brazil for the calendar year 1921 are

unavailable. The changes that have taken place from 1913 to 1920 in the relative shares of the United States, Great Britain, Germany, and France in the foreign trade of Brazil, are indicated in the percentage figures below:

	1913	1920
United States	15.7	42.1
Great Britain	24.5	21.2
Germany	17.5	5.
France	9.8	5.6

Per cent of total imports from Brazil

	1913	1920
United States	32.6	21.3
Great Britain	13.2	8.
Germany	14.1	6.7
France	12.3	11.4

Because of her industrial character, New England should be worthily represented at the Exposition, the *Review* further states. In 1920 Brazil purchased manufactured goods similar in character to those produced in New England, amounting in value to \$117,000,000. These included cutlery, iron and steel manufactures, electrical machinery, industrial machinery, textile machinery and accessories, paper, rubber boots and shoes and other manufactures, sewing machinery, silk goods, automobile tires, tools, wire and woolen goods.

In the single item of cotton manufactures, Brazilian imports in 1920 amounted to \$32,000,000 in value. Almost all of this trade went to the cotton spinners of Great Britain. New England, as the center of the boot and shoe industry is interested in the fact that eighty per cent of Brazil's exports of hides and skins come to the United States. One-half of Brazil's exports of coffee, rubber, and sugar are also sent to the United States market. In each of these lines New England has an interest because of her sugar refining, rubber goods manufacturing, and coffee roasting industries. Our large imports of Brazilian goods should, wherever possible, serve as a basis for the development of reciprocal trade.

Reported lack of interest on the part of some of our manufacturers may be due to their experience during the

chaotic period of 1920 and 1921. There is, of course, no question that the rejection of merchandise at that time caused serious embarrassment and uneasiness to our exporters. It may be said in this connection that efforts are being made by Brazilian statesmen and others, to correct this situation which was largely responsible for the difficulties encountered a year ago. Under Brazilian law, as interpreted by the courts, the seller, particularly a foreign seller, has been somewhat at a

disadvantage in a controversy over the rejection of shipments of merchandise. There is, however, evidence of a change in the attitude of some of the courts which should put the seller upon a more even footing with the buyer. A complete revision of the Commercial code of Brazil is now under consideration by the Brazilian Congress, and efforts are being made for a provision to enable the seller to dispose of rejected shipments, by auction, and to sue the buyer for any loss.

MEXICO AND A CENTRAL BANK

An important feature in connection with the readjustment of Mexican finances will be the formation of a Central Bank of Issue, organized along the lines of the Federal Reserve System, says Adolfo de la Huerta, Mexican Minister of Finance.

The main features of the general readjustment plan, Mr. de la Huerta pointed out, were conceived by President Obregon. While the agreement signed with bankers on the external debt, the plan in regard to export taxes and the formation of a Central Bank of Issue are each separate, all forming a part of the readjustment plan.

Agreement reached with the bankers will not, therefore, be ratified until Mr. de la Huerta returns to Mexico City.

All the various points of the readjustment plan must be gone over with President Obregon, the Minister explained, and possibly to the Cabinet of Ministers, before they can be placed before the Mexican Congress for legalization.

Mr. de la Huerta declined to discuss the details of the proposed Central Bank of Issue at this time, but said:

"In these arrangements a very important part will be played by funds to be furnished in the major portion by European bankers, the rest being subscribed by the financiers of this country."

DUTCH PETROLEUM CONCESSIONS

The Netherlands Colonial Petroleum Company, a subsidiary of the Standard Oil, has obtained for a period of seventy-five years the so-called "Redan Concession" in the Netherlands East Indies for the developing of oil territory. The concession comprises 8,250 acres and is situated in the Palembang lowlands (Sumatra). The same company has acquired the "Gujangan Concession" of 4,895 acres, located in the Modjokerto district, Soerabaya, Java.

The Netherlands Colonial Petroleum Company has also been granted for a period of 75 years, beginning with April 6, 1922, two concessions for the development of oil-bearing

territory in the section Samarinda of the Residency South and East district of Borneo, these concessions being known as Koetei I and Koetei II, measuring 9,435 and 5,407 acres respectively.

PERUVIAN PARCEL POST

The Consul-General of Peru in New York informs the National Association of Manufacturers that the Peruvian Government has issued a decree to the effect that on all parcel post shipments to Peru it is necessary that a consular invoice be presented for certification at the nearest Peruvian Consulate. The fee for legalization will be two per cent *ad valorem*. The decree has been made effective June 26th, 1922.

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Morocco Torn With Unrest

New American Consul finds the African country in unsettled state; with Spain and France both fighting to maintain supremacy in the zones of influence and old bandit Raisuli still on the rampage

THE Rev. Joseph M. Denning, President Harding's fellow townsman, who has just assumed his duties as American Consul General and diplomatic agent, at Tangier, Morocco, finds the country in political and economic turmoil. The country is torn with unrest from within. From without, both France and Spain are fighting to maintain supremacy in their zones of influence.

Eighteen years ago John Hays's "Perdicaris alive or Raisuli dead!" rang through the streets of Morocco and four American warships steamed into Tangier to back up American demands for the release of Ian Perdicaris, whom Raisuli had kidnapped and was holding in the mountains for ransom.

The Moroccan Government understood the language of warships with guns turned shoreward. It paid Raisuli the \$10,000 he demanded for Perdicaris' release and the incident was closed.

But this same Raisuli is still on the rampage. He and many other bandit chiefs are operating within a hundred miles of Tangier. Raisuli has grown fat and prosperous since the days when he made the Moroccan Government pay him so well for the release of Ian Perdicaris and Walter B. Harris, the correspondent of the *London Times*. But a few days ago the Spanish troops drove him out of his citadel at Dazroot, sixty miles south of Tangier, and he and his harem and 3,000 to 4,000 soldiers are in flight in the mountains before the artillery of the Spanish leaders who have less fear of bandits than the Moroccan Government.

It was in 1904 that Raisuli captured Perdicaris and blackmailed the Moroccan Sultan into ransoming him to avoid trouble with America. The bandit leader became so powerful that he was named governor of the Tangier district a little later, and was also named governor of the city of Arzela. He was such a power the Government could not refuse him what he wished. When Spain took over under the Algeiras treaty in 1912 it curried favor with Raisuli. He was given arms for his forces and made a sort of governor.

Three years ago the Spaniards, tired of the extortions and demands of Raisuli, ousted him from office. At Dazroot he had erected a fortified castle, where he kept his bandit army and his treasury protected against invaders. He had machine guns, but no heavy artillery. So when the Spanish forces turned heavy shells against his stronghold a few days ago there was nothing for him and his followers to do but flee.

This flight puts Raisuli into bitter disgrace. Dazroot is a holy city. It contains the tomb of Absolam Raisuli, an ancestor of the bandit chief, and a patriarch much revered by Mohammedans. Consequently Raisuli has lost face by his inability to resist the attacks of the Christian troops. They have broken the spell which his long series of successes had cast about him. He is in flight in territory where he is much hated by the natives because of his cruel exactions, and if the Spaniards choose to pursue him his capture should not be difficult.

For nearly forty years Raisuli has been Morocco's pet bandit. He was

born about sixty years ago at Zinat, near Tangier, and first came into fame through a love affair. He killed the husband of the woman of his choice and also several other men who attempted to prevent him from carrying her away. Then he turned highwayman and became the greatest robber in all Morocco. He was once captured by trickery. A governor promised him a high position and trapped him by this bait. He was thrown into the island prison of Mogador, which is generally equivalent to death. But he had powerful friends and much money. Thus he regained freedom and returned to the road.

Through his kidnapping of Perdicaris, Walter B. Harris and Sir Henry MacLean, Raisuli became an international figure and a highwayman whose work was too expensive for the impoverished Moroccan Government to finance. His ransoms were so high that he had to be taken into government service to save the government from bankruptcy.

Raisuli captured Perdicaris at his summer home in the mountains near Tangier. Telephone wires communicating with the city were cut and Perdicaris' servants were bribed or frightened into assisting the highwayman, who forced the wealthy American to mount a horse and accompany the bandits into distant mountains.

As soon as Mr. Perdicaris was released he returned immediately to New York and abandoned the beautiful villa in Tangier which he had occupied for many years. The house was converted into a gambling club and was destroyed by fire several weeks ago.

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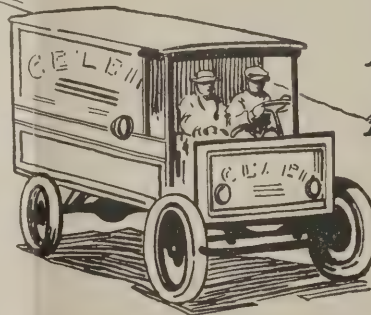
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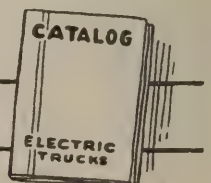
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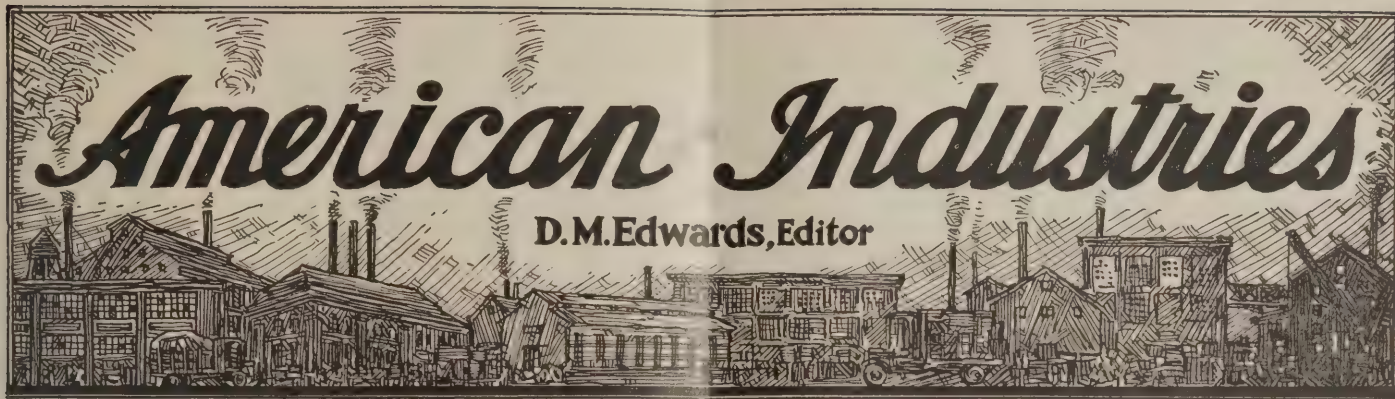
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Written especially for AMERICAN INDUSTRIES

By The HON. SCOTT C. BONE, Governor of Alaska

Photos through the courtesy of Governor Bone and the Seattle Chamber of Commerce

ALASKA is entering upon an era of progress and development. A brighter day is dawning. The Territory is better known. It is engaging the interest of statesmen at Washington. In a larger degree than ever before Alaska is in the public eye. Slowly but surely it is emerging from the realm of fiction and fancy into the realm of truth and fact. An enlightened people are to-day appreciating that Alaska is not a domain of ice and snow and polar bears, but a habitable land of resources beyond its gold and inviting in manifold aspects to capital and people.

Several months ago I ventured the opinion that the year 1922 would show industrial and commercial improvement of fully fifty per cent. over the years immediately preceding. This forecast is being confirmed. There is greater activity in the Territory than at any time since the beginning of the World War. Both capital and people are looking toward Alaska with greater favor than heretofore. Obstacles to investment and settlement have not been removed, but, thanks to official coöperation and a more liberal governmental attitude, these obstacles are steadily being reduced and in time will be removed.

Alaska is going ahead—not rapidly, but gradually and certainly.

Government policies for Alaska are made in Washington. The Governor aids in their execution. I have the utmost confidence that under this ad-

ministration these policies will be constructive, upbuilding and progressive. President Harding, Secretary Fall and the entire administration are tak-



Governor Bone

ing an active interest in the Territory and the outlook is to-day distinctly promising.

Big work is to be done. The coming decade should mark a great advance for the Northland and equip it for statehood.

Only those who have visited the interior comprehend Alaska in all its greatness. In dimensions nearly one-fifth the size of the United States, and with a coast-line, including indentations, over thirty thou-

sand miles in length, it is an empire in itself. Its purchase price only \$7,200,000, it has yielded in mineral wealth alone over five hundred millions, and its resources have yet barely been touched. Its fisheries are of incomparable value and have produced even greater wealth.

Alaska has 100,000 square miles of agricultural land and small homesteaders thrive near towns in the valleys. Coal and oil are now adding to the Territory's richness, and initial steps have been taken to develop the wood-pulp industry.

Population is essential to the Territory's development, and population can only come with the inauguration of industries, which wait upon capital. A business proposition confronts the government in Alaska, and only as a business proposition can the Territory's problems be worked out. They are American problems. Conservation politics, not true conservation, has hindered their solution and handicapped growth.

A centralization or concentration of the administrative authority is absolutely necessary to speed development.

Alaska went backward from 1910 to 1920. The World War contributed to this, but the Territory had previously been robbed of individual initiative and the pioneer spirit through red-tape, divided authority and kindred obstacles impossible to overcome.

Conservation of our national resources is necessary, of course, but it

must be a rational conservation that can be translated to practical ends for the public good. Hoarding is not conservation. Under such a policy of mistaken conservation as that applied to Alaska, the country west of the Rocky Mountains would to-day be a waste and wilderness and Denver, Salt Lake, Los Angeles, San Francisco, Portland, Seattle and other fine cities in the inter-mountain and coast regions would be mere frontier towns, if they existed at all. As great a statesman as Daniel Webster early in the last century argued that the country west of the Rocky Mountains was unworthy of consideration. He was in error, just as statesmen of our day have erred as to Alaska.

Criticism of bureaus operating in Alaska is not implied in criticism of the bureaucratic system. Such bureaus, in the main, are useful, if not invaluable, for the expert and technical service which they render. They were created for this purpose. But it was never intended that they should exercise the administrative functions which they have assumed. Operating largely at long range, they have contrived to establish a system that has retarded progress, halted enterprise and become repressive.



Juneau, the Capital of Alaska

A consolidation of the essential bureaus under one department at Washington, with the administration brought closer home to Alaska, is the prerequisite of progress and prosperity in Alaska. It must be made easier for people and capital to gain a foothold in Alaska.

The late Franklin K. Lane, as Secretary of the Interior, did his best to correct this system and put Alaska upon a basis of constructive development, but failed. He indicted red-tapism with all the power at his command, but the war diverted attention from the Territory and negated his efforts.

Secretary Fall, a territorial man, and grasping territorial problems, believes in Alaska and stands for constructive, upbuilding policies, just as Secretary

Lane stood for such policies. Supported by the President, there is every promise that his efforts will not prove futile. Indeed, a measure of coördination has already been secured.

The need of a coördinated and centralized administration of Alaskan affairs is so obvious that it is not to-day combated in any well-informed quarter and needed legislation will assuredly be forthcoming.

The government railroad, extending 467 miles, from Seward to Fairbanks, with a branch line to the

Matanuska coal fields, is completed, save for a mammoth 700 foot, single-span, steel bridge over the Tanana River at Nenana. A twice-a-week through-train service is now maintained over the entire line, with transfer at Nenana, and there was no interruption of the service during the winter. It has reduced the cost of necessities of life to people of the interior fifty per cent and upwards, and a greater reduction will follow.

The completion of this project, under the handicap of distance and natural difficulties, demonstrates that the government can do such work and do it well. It has involved in the aggregate an expenditure of \$56,000,000. It is worth it. It is the first great step toward the development of



Government Railroad Bridge over Hurricane Gulch

Alaska. It will pay—not immediately in dividends of dollars and cents, but in benefit to Alaska and the country at large. The future will demonstrate the wisdom of the investment, assuming that the government intends to meet other urgent needs of the Territory.

For the first time in 55 years, save for the export of a few tons of lignite years ago, Alaska coal is now being supplied to local markets. The Government has expended \$1,500,000 in developing the coal fields of the Matanuska District and erecting a mammoth coal cleaning plant. Alaska will at no distant day be equipped to compete with British Columbia and Utah and Colorado coal on the Pacific Coast. Private enterprises are branching out on the line of the railroad and there is promise of additional big capital and further coal production. It is to be taken for granted that the government will not go into the coal-mining and coal-selling business, but that its mines will be leased and operated on a royalty basis.

The Kantishna Mining District, within easy reach of the railroad, will witness unusual activities. Large tonnage will undoubtedly come from this region which is believed to be exceptionally rich in minerals.

The oil fields in the Cold Bay Region will also be



A typical Southeastern Alaska fishing plant



Holt tractor train on the Valdez-Fairbanks Road

the scene of extensive drilling during the season and the outlook there is most promising.

Throughout the Territory, in fact, the stimulus of better times is felt.

To fully open up the Territory roads and roads and still more roads must be

built. The Alaska Road Commission, coöperating with the Territorial Road Commission, has made a magnificent start. Automobiles travel over the Valdez-Fairbanks trail, 370 miles, regularly in the summer season. Thousands of miles of trails have been constructed. But the fund for road-building in the interior—only \$500,000 this year—is wholly inadequate. There is no roadway into Mt. McKinley Park.

The sum of \$1,500,000 should be available annually to carry out a comprehensive road program in Alaska.

By a strange anomaly the Bureau of Roads, of the Department of Agriculture, which can build roads only in the forest reservations along the coast, has some \$1,200,000 to spend. Its projects are largely local and contribute in no great measure to the general development of the Territory. Not a dollar of this fund can be ex-



Field of Spring Wheat at Fairbanks



Hydraulic mining at Nome

pendent outside the forests—not even for the much needed roadway into Mt. McKinley Park. The Bureau is doing its work well and some of its projects are of decided industrial utility. But the fact remains that transportation problems along the coast are water problems. Owing to divided authority, two road-building agencies, the Alaska Road Commission and the Bureau of Roads, with double overhead, operate in Alaska. The Territory wisely merged its activities with those of the Alaska Road Commission. Efforts to consolidate the two Federal agencies have thus far been antagonized and failed. Such a consolidation and a merging of all road-building monies for general use would be of incalculable value in hastening the development of the Territory.

Alaska's rich resources have not been overestimated. They have been underestimated. But these rich resources cannot be developed on a shoestring. The difficulties are great; the handicaps many. Big capital was essential to big development in the past in all parts of our large domain. When I speak of big capital I mean clean capital and honest capital. The thought that capital becomes unclean or dishonest when it attains size is untenable and preposterous. The suggestion that predatory interests are going to gobble up Alaska is supremely false. That bug-a-boo has had its inning and cannot be resurrected for further mischief.

Alaska needs only the chance—a

fair chance—to come into its own. It needs only the chance given to the great Middle West and the wonderful Rocky Mountain and Pacific coast

country to grow and prosper. It needs and must have the American chance. It has been throttled and held back to the discredit, not to say dishonor, of this great republic of ours. It has been too long made a football of conservation politics. It has paid a heavy price for the meddlesomeness of theorists and doctrinaires. It has had academic treatment to its sorrow. Its paramount and overshadowing need to-day is common sense.

Secretary Fall recently expressed the opinion that there is wealth enough in Alaska to pay off the national debt. That is no exaggeration. Strangled for many years by bureaucracy it has yet produced wealth in excess of \$1,000,000,000. What may Alaska not do if given the chance?

A slogan used in the late campaign applies primarily to Alaska: "Too Much Government in Business and Too Little Business in Government." Under a wise administration at Washington, an administration interested in Alaska and determined to do something for Alaska in a constructive way, there is going to be less government in business and more business in government in Alaska.



Forests of Southeast Alaska, the nation's future source of paper pulp

OPENS OFFICE IN BRAZIL

F. R. Johnson, former manager of Standard Sanitary Manufacturing Company has left for Buenos Aires to open an office for his company in that

city, from which office he will conduct their business in the River Plate District. The management of the New York export office is now in charge of E. A. Albertis.

Healthy Move Toward Sound Times

Important feature of the Government's recent industrial survey lies in the indication of normal prosperity and the care with which industry and merchandising will be handled in the future

Written especially for AMERICAN INDUSTRIES

By C. E. KNOEPPPEL

President, C. E. Knoeppel & Co., Inc., Consulting Industrial Engineers

THE importance of the findings of the Government's industrial survey, recently announced, lies, largely, in the fact that for the first time since the post-war depression, there is a healthy move toward sounder good times. Things are looking better and getting better. By late autumn we ought to be on our way to an improvement—which, however, cannot be fully rounded improvement until the coal and railroad strikes are completely straightened out, and until the foreign situation is adjusted so we can do a proper export business. Business conditions promise to continue to improve until next Spring, and by that time we may have struck a normal basis to begin a new cycle of what we call "Good Times." What this means generally to industry, and the part it will have in bringing about a continuation of such a good times cycle will depend largely upon how industry and merchandising are handled.

With the reports of low unemployment and of increasing production, or, at least stimulated manufacture, it is significant that even steel is gradually coming back. Usually rise in the steel market has indicated improvement of conditions, until it has become an American business axiom that "Times are as good as Steel." This has not held altogether true in the recent period of depression, probably because the underlying causes of that depression were financial and political as well as industrial. Almost everything else made an earlier start toward progress, including the non-ferrous metals, and now finally and steadily steel is also showing consistent indications toward better times.

The Middle West, as far as we can see by our personal contacts and reports from there; and, especially, out in Detroit and Cleveland and that general section; is coming back at a pretty lively pace and hotel accommodations there are beginning to be hard to obtain again. The real improvement, nationally, however, will be parallel with the developments of the foreign situation, during the next eight or ten

months as permitting steadier production and proper export business.

The tariff laws now contemplated will have a beneficial effect temporarily, but their good effect is no panacea for assured permanence. The tendency of such a tariff will be to lull Industry into a false sense of security, and hence, tend to make executives overlook those inefficiencies which are in whole or part compensated by tariff preferences. Specific industries which show a decided improvement are probably those which were hit the hardest—rubber, automobiles and glass—and which consequently "cleaned house" more vigorously than some other lines.

As far as the coal and railroad situations are concerned, there are always permanent bad results from any big strike, mainly due to the impossibility of making up for past economic losses. Whichever side loses a big strike always makes up its mind to get ready to fight all the harder next time.

Based upon my own observations and those of my associates it is my personal belief that we will gradually and yet steadily emerge from this state of depression between now and next Spring. Most of the companies that have weathered the past few years have tested out their organization and personnel in the fire of depression and hard times. It seems likely that during the coming Fall and Winter, we will see less of liquidation and more of business expansion. There is growing to be less thoughtless business adventuring; plans and schedules for industrial plants are being laid down now in the light of warning precedents, and with a weather eye out for the future—not merely for to-day or to-morrow, but with settled intention to keep going next year as well as this year and throughout the years after, with not alone seasonal, but all-the-year operation.

The fly-by-night concerns, that sprang up to reap the fruitage of a swollen war wage and to indulge new-rich mechanics who thirsted for a "business of their own," found themselves going into the discard, as money was lost and extravagances became more apparent. The tiny factories,

which in the aggregate were immense, which grew out of the manufacture of unstable fads and eventually, when they "blew up" dumped on the market successively a lot of idle unemployed people, have now to a great extent burned themselves out. In their places and in many of the war-constructed emergency and war-commandeered plants new and sounder industries are beginning to be established.

For the first time in several years money is being loaned by savings banks on real estate, instead of on negotiable collateral only. According to the Survey by the Government, unemployment is reported to have lessened in the 355 industrial centers listed. That information is, doubtless, accurately and carefully arrived at; but nevertheless any such statement does not claim to represent sectional prognosis. Last year the shoe market was good in spots in New England and poor in the southern Middle West. To-day, it is better out there than in New England. But to forecast and to anticipate business conditions is to try to gage one of the most intangible things on earth, because it is so bound up in human reactions.

Crops and weather reports are of real value to agriculture and shipping; but as yet we still have no similar and timely help by the Government as to business and industrial lines—no adequate kind of statistics or information to guide industry. Facts as to the ebb and flow of business, trade by trade, and region by region; zonal demand for products; the available supply both of raw materials and labor; migrations of labor; and generally the essential elements which bear on industrial life, must one of these days be covered by regular and accurate Government reports in both statistical and graphic form, if there continues to be "more business in Government." As for myself, I believe we are moving in that direction.

Unintelligent competition, needlessly excessive costs, preventable or reducible wastes, faulty industrial practices, red tape administration methods, unrelated costs, prices and profits, round-

about accounting routine, and the like, can only be brought to light by concerted interchange of data and by freely accepting the assistance of competent industrial counsel. Collated results show that 60 per cent of the concerns of the country fail sooner or later; that less than 50 per cent pay dividends, and that only 6 per cent know their actual costs. This finding is no alarmist's work. It was made by Bradstreets. The claim that things have managed to go on just the same in spite of similar results in other years, and the assertion that we are better developed and more ingenious in the operation of our industries than any other country, is frankly open to question; and in any case it does not affect the fact that such a state of things has a vital bearing on "Good Times" and "Hard Times." We can place the blame wherever we choose, but actual scientific computation shows that more than fifty per cent of the responsibility for industrial wastes can be laid to the door of Management and less than 25 per cent to Labor. The amount chargeable to outside contacts and causes is least of all.

These facts deserve calm and painstaking consideration at a time like this when we are facing the rise in prosperity. The elements which develop permanence of prosperity, once known and well combined, are:

1. Reduction of employment to a practicable minimum, so as to avoid drastic wage cuts during depressions and industrial slumps, and hysterical crossbidding at times of emergency.

2. Keeping plants operating more uniformly throughout the year.

3. Better utilization of capital and budgeted inventories; sounder development of trade. These are all constructive measures—all practicable, if adopted with the objective of stabilizing industry, finance and labor.

The Government Report already mentioned, finds that in 1,428 concerns (each employing 500 or more workers) embracing almost every line of trade, in various sections of the United States, unemployment has been successfully reduced during the last six months; and that at present there are indications of shortage of skilled workers in certain lines. Such a dearth will be filled to a great extent, however, by immigrants now just arrived, and among whom are a larger percentage of skilled workers than of common labor. This situation is to be taken as further indication of definite progress toward prosperity. Before there can be any assurance of continuing good times there must be well planned and carried out means for progressive reduction of unintelligent purchasing and unscientific price making. Without

such effort we cannot expect to get away from hard times—unemployment, unstable wages, reduced capacity-operation, the two-way losses traceable to seasonal demands and to falling market after purchases have been made at high prices. On the other end of the pendulum's swing, by overlooking obvious precentives, we shall arrive at temporary over-expansion, unnecessarily high costs in operation and profiteering opportunities in materials—with the resultant periodic idleness of plants, men, equipment and capital.

Even more than in average good times, the return to prosperity calls for purchasing with close reference to requirements. If materials can be got at low prices, it may result often in stimulated commerce, increased production, diminished unemployment; or, if the opportunity is ignored at a time like the present there are serious risks of swinging back prematurely to unreasonably erratic prices. Sometimes in periods of progressive stimulation such as the one we are now entering, plants may be crowded to full blast upon insufficient evidence that the seeming demand will continue after supplying pre-existing shortages.

Very few manufacturers have learned to include in their costs the market price of materials at the time they are used, and to clear the difference between the market and cost values through an adjustment account, thus taking any balance at the end of the year to profit-and-loss. In this way profit and losses due to purchasing would be entirely separated from those

due to operating and the effect would serve to stabilize the market and facilitate intelligent price-making.

The significant fact in connecting all this with the coming era of prosperity and present improvement in employment conditions, is that there is a positive relation between costs and prices only when the plant is operating at normal capacity. Beyond any question, enough money is lost by operating below normal capacity, to make handsome profits for the owners, as well as high wages for the workers, if concerted and equitable means were used to operate industry at nearer to a normal scale, and to purchase goods on a more strict economic basis. Labor is not likely to do its best to turn out quantity production, and utilize labor-saving machinery to its fullest extent, until fluctuation between the peaks of production and valleys of stagnation is further equalized through stabilization.

There is nothing to prevent us from learning to handle basic commodities more nearly like the products we grow or raise and then place in storage until they are needed for use. Various trade and industrial organizations are now appreciating the all-round healthy results which would come from producing more nearly on a normal basis throughout the year. This same course has been adopted already by a few trade leaders. Others will do well to follow. Coming with the slow momentum of large things, this wave of returning industrial prosperity can be made to earn for industry the full bounty that means proper profits for both owners and workers.

Directory of Manufacturers

THE almost absolute dependence of nearly seventy-five per cent of the population of Massachusetts either directly or indirectly upon the industrial activities of the state, has suggested to the Associate Industries of Massachusetts the necessity of maintaining those activities in a healthy and virile condition at all times, and to that end the desirability of facilitating the doing of business with Massachusetts concerns on the part of not only New England business people but those of the whole country. The organization mentioned has, therefore, compiled and published a "Directory of Massachusetts Manufacturers," volume 1 of which has recently been issued.

This volume is divided into four sections, one being the catalogue section, in which some 160 concerns are listed, each taking a page, descriptive of their products.

An alphabetical section gives the

name, officers, capital, products and location of the manufacturing plants of the state. The third is a geographical section in which the manufacturers and products are listed by towns, while the fourth is the products section, in which the names and addresses of the manufacturers are listed under the names of their various products, arranged alphabetically.

CASH REGISTERS NEEDED

The figures of the new Soviet budget show that a tenth of the total outlay is for naval and military expenditures. This figure is 74,752,738,000,000 rubles. The budget shows a deficit of 400,420,500,000,000 rubles. The income is estimated at some billions over 360,000,000,000,000, while the expenditures are 760,500,000,000,000.

The Soviet State banks have issued notes varying from 100 to 1,000 gold rubles. Of this issue 25 per cent is covered by bullion.

Marconi And The Marvel Of Radio

The Italian genius, on his trip to America, is astounded by the popular development of the wireless by young and old almost as much as he was by his own early experiments in the new field

Written especially for AMERICAN INDUSTRIES

By W. A. DAVENPORT

BEFORE Guglielmo Marconi's yacht fetched him to New York last month, we had assurances that at least 50,000 boys and girls—among the hundreds of thousands of persons of all ages in this country—were doing things in radio that would have been recognized as epoch-making discoveries ten years ago.

Marconi arrived in America to be amazed by what these amateurs were doing. He confessed his amazement every time he spoke to reporters or at public gatherings. By the time the *Electra* steamed east again, bearing home the Italian genius, those 50,000 remarkable amateurs had become nearly 100,000, and Marconi said:

"It is like being followed by one's own shadow. Somehow one may keep ahead of that shadow but unless he watches his course, the shadow appears ahead of him. The only way I can keep in the van of these American amateurs is to keep facing the sun—keep aiming for far greater facility in radio transmission by cutting into new lanes of investigation. Even then we scientists will have to keep working and experimenting because the American tendency to obtain results is one that doesn't allow great laboratories and heavy tomes to stand in the way. These thousands of amateurs get there by going.

There may have been a bit of lightness in Marconi's professed earnestness, but he is not the sort of man to

indulge in idle words. He meant just what he said, the chances are, and it is not at all improbable that his thoughts had gone back to his own initial experiments with the discoveries of Hertz, Faraday, Lindsay, Maxwell, Hughes, Thompson, Lodge, Branley, Morse, Bell and Edison.

Anything like the complete history of radio transmission—telegraphy and telephony—has yet to be written. And until it is any mere attempt to gloss over the subject would be presumptuous. But the main structure of wireless transmission is Marconi and his work. What others did before him are but risers and treads in the steps leading up to the main structure. And this

is not traducing the makers of those steps.

What a benefactor to this human race, this man Marconi has been. In business and commerce, in the saving of human life, in adding to the pleasures, the comforts, the happiness of millions of men and women, the work of Marconi as a quiet student in his father's home in Italy has grown into one of the great blessings conferred upon the world even in this, the so-called golden age of discovery and science.

It was only a little more than twenty-five years ago that Marconi discovered the secret of practical radio transmission. That day of discovery marked

a very definite epoch in the history of human progress. To-day preparations are being made to transmit articulate speech from Europe to America and America to Japan. There is little doubt but that the preparations will be consummated in wholesale success. And this somewhat stupefying accomplishment will be due to the genius of the man Marconi for while he has done relatively little himself in wireless telephony, all the glory of radio transmission and radio telephony is based upon its older brother, radio telegraphy.

But of what Marconi is doing now and hoping to do, it would be better to let him speak. Just before he left America a few days ago, he talked at length in his laboratory on the



Senator Marconi studying Dr. Irving Langmuir's marvellous new 20-kilowatt radio tube in the General Electric Laboratories

yacht. He is one of those rare geniuses who can set forth the most technical of subjects in a simple way that leaves no room for misunderstanding.

"The question as to whether it would be possible to transmit radio signals around the world as far as the Antipodes is one which has always fascinated me," Marconi confessed. "In fact, the distance to the Antipodes is the greatest possible useful distance that can be covered by radio on this little earth of ours."

Marconi stated that he had obtained results, "which go far to show the relative facility with which radio signals can now be sent from England to Australia and seem to indicate that there is something in the idea of the wireless waves traveling around the earth by various ways and reuniting at the Antipodes."

"Sometimes these radio waves, traveling around the earth in different directions, reinforce each other when they meet at the receiver," said Marconi, "and sometimes they interfere with each other. The great station built by the Radio Corporation of America at Port Jefferson, Long Island, the most powerful on this continent, sent waves that preferred to travel three-quarters of the way around the earth, rather than to come by the shortest way around."

Mr. Marconi then referred to the work that had made him famous over twenty years ago and pointed out that all his early experiments had been conducted with short wave lengths. In the development of radio communication, the longer wave lengths have so much absorbed the attention of inventors and engineers that in Marconi's opinion the time has come to conduct research in short wave length radio.

In wireless, electric energy is flashed into space in waves. The distance from one wave crest to another is called "the wave length" and is usually expressed in meters. In these days, when radio has become the hobby of hundreds of thousands, the wave length used may vary from 200 meters to 20,000 meters. In other words, the ether of space is shaken into terrific billows compared with which the mightiest upheavals of the ocean in a storm are mere ripples.

"Some years ago, during the war," said Marconi, "I could not help feeling that we had perhaps got rather in a rut by confining all our researches and our tests to what I may term long waves or waves of some thousands of feet in length, especially as I remembered that during my early experiments, as far back as 1895 and 1896, I had obtained some promising results with waves not more than a few inches long."

He then proceeded to describe how

he had returned to his original idea of using short waves and told of some recent striking experiments that he had conducted with waves of one meter to twenty meters in length. Marconi said that because radio waves can be reflected like light waves, he has devised a method of sending them in a given direction in a beam instead of scattering them to all points of the compass. What he described was in reality a radio searchlight. The pictures that he threw on the screen showed a reflector which reminded one of the structures that H. G. Wells once attributed to the earth-conquering Martians. Marconi's radio searchlights bear little resemblance to a searchlight of a battleship. They are wires arranged in a special way on towers or masts.

In Italy Marconi succeeded in thus reflecting radio signals for a distance of six miles, the wave length selected being three and a half meters. Subsequently, in 1919, experiments with fifteen meter waves were made at Carnarvon.

"After overcoming a few practical difficulties, very strong and clear speech was received at Holyhead twenty miles away," Marconi said. "As a result, it was decided to carry out further tests overland across a distance of ninety-nine miles between London and Birmingham. It was proved at once that with reflectors at both ends, good and clear speech could be exchanged at all times between the two places."

This is a record in long distance radio transmission and reception with short waves.

Marconi stated that the reflectors make it possible for the receiver to reproduce a radio telephone song or speech about two hundred times louder than is ordinarily possible. What is more, speech is transmitted practically without distortion, and the transmitting aerial can be used both for sending and receiving at the same time.

"In these days of broadcasting, it may still prove to be very useful to have a practically new system which will be to a very large degree secret when compared to the usual kind of radio," he said.

Our broadcasting stations are like the sun; they radiate in all directions. Marconi's new system is an out and out searchlight. It confines radio communication to practically one direction.

Marconi believes that revolving reflectors would enable him to realize an idea that he first proposed twenty-six years ago—the idea of a radio lighthouse which will guide ships at sea during a fog off dangerous coasts.

"The transmitter and reflector revolving, act as a kind of wireless lighthouse or beam, and by means of the

revolving beam of electrical radiation, it is possible for ships, when within a certain distance, to ascertain in thick weather, the bearing and position of the lighthouse," said Marconi.

In one test that he made, a steamer was able to take her bearings within one-quarter of a point of the compass.

"It seems to me that it should be possible to design apparatus by means of which a ship could radiate or project a divergent beam of the short wave rays in any desired direction, which rays, if coming across a metallic object, such as another steamer, would be reflected back to a receiver on the sending ship and thereby immediately reveal the presence and bearing of the other ship in fog or thick weather," said the Italian scientist. "One further greater advantage of such an arrangement would be that it would be able to give warning of the presence and bearing of ships, even should these ships be unprovided with any kind of radio."

Marconi discovered that when short waves are used, "disturbances caused by static can be said to be almost non-existing, and the only interference comes from the ignition apparatus of automobiles and motor boats." He even predicted that the day would come when we will have to screen such systems or have them carry a government license for transmitting.

"Incidentally, I might mention that one of these short wave receivers will act as an accurate device for testing whether or not ones ignition system is working all right," he continued. "Some motorists would have a shock if they realized how often their ignitors and spark plugs are working in a deplorably irregular manner."

Static, a subject to which the research laboratories of the Radio Corporation of America have devoted so much study, was also discussed by Marconi. It may be explained that static is caused by electrical discharges in the atmosphere and is heard in the receiver as a sputtering and grinding that sometimes drown out telegraph signals and telephone speech, particularly in summer. Static is now overcome by sheer power. The signal is driven through against the interference of static. To overcome static Marconi first determines the strength of the signal sent by measuring apparatus and then makes the signal strength equal to that of the distant transmitting station.

"If the signals are unreadable, due to static," he explained, "the measuring apparatus is used to send to an operator at a standard rate of twenty words per minute, five letter code, and the voltage applied to aerial from the local sender is increased until complete readability is obtained. Thus I obtained,

at once a very correct estimate of how much the power to drive the signal through."

He has discovered that a certain kind of static called "grinder," originates over Africa and another violent "click" type over South America.

When Marconi was just assuming his stride in radio, he received very little support in Italy. He went to England in 1896 and there saw vaster opportunity and more liberal aid. On June 2 of that year he did something that somewhat shocked the scientists. He applied for and received the first British patent for wireless telegraphy. While others had been working and dreaming Marconi had been working and working. It is not discourteous to this remarkable man to say that his application for his patent earned him as much if not more renown than his actual productions had. To be coldly accurate, Marconi up until this time had not startled the world.

In July, 1896, he was introduced to Sir William Preece, chief electrical engineer for the British Post Office. At Sir William's request the Italian scientist snapped a few characters and code letters over a distance of 100 yards and later went out to Salisbury Plain and repeated the operation between stations one and three-quarter miles apart.

That introduced Marconi to the world at large. Other scientists virtually dropped their work and hastened to join the mob of spectators. The newspapers contained most guarded statements concerning this business of telegraphing without wires. Of course, they agreed, it was interesting and mysterious, but it would never come to anything. It was nothing more or less, they said, than some queer phenomenon that this man Marconi had fallen upon. Possibly he would be seen in the music halls along with the other Johnnies who did sleight of hand and the like.

But on July 27, 1896, the Italian staged the first demonstration of directional wireless, using reflectors, and in 1897 he snapped his messages four miles with the unerring aim of the expert rifleman. It was during the same month that Marconi went to Spezia, Italy, and from the shore established continued wireless contact with the warship *San Martin*. The distance was ten miles.

That set America to talking about Marconi. Marconi is quite candid in his statement that it was from America that he received the most applause, the greatest encouragement and the most unflinching support. Nothing in radiotelegraphy caught and fired popular imagination so much as the messages from distressed ships. It was the "S. O. S." and the "C. Q. D." of

those early days that had singers singing songs about the new sensation and dramatists making plays around it. Remember the sensation that followed the news that the murderer, Hawley Crippen, was apprehended on the American coast by officials who had received the wireless request from Scotland Yard men on a plunging liner? So far as the available records disclose, the first threatened marine disaster to be averted by wireless occurred in 1899. On March 3, the steamship *R. F. Matthews* ran into the East Goodwin Lightship off the British coast. The Matthews was not far off shore. It had been equipped with wireless. Before it foundered boats from the life saving station took off the crew and passengers.

But it was the sinking of the steamship *Republic*, rammed by the steamship *Florida*, in January, 1909, off Nantucket Lightship, that caused the appreciation of the wireless as a life saving device. The crash came at night. Wireless operator John R. Binns was manning the radio key on the *Republic*. There were 1,500 persons on the *Republic*. In the station at Siasconset on Nantucket Island sat another operator, Jack Irwin. The stricken *Republic* began to founder and Binns began cracking forth the "C. Q. D." that figuratively was heard around the world. He stuck to his key, snapping his call—"I am in distress; I want help!" until help came and the 1,500 who depended upon his courage and coolness were saved. The *Republic* sank almost under Binns. Irwin received the signal and so did other steamships. But it was Irwin who relayed to the other steamships the position of the foundering *Republic*.

Again, ten years ago, the radio aroused America and Europe when the *Titanic* sank. Unhappily the wireless was not able to attract all the help needed in that case. But you will remember that for many hours it was impossible to get any definite information regarding the huge liner. The radio has made great strides since that tragedy. There were no loud speakers, so-called, and operators had to depend upon their sharpness of ear for the indistinct dots and dashes that percolated through receivers clamped to their heads. But the *Titanic's* radio had caused the *Olympic* to pick up a number of the victims.

To follow the story of the radio's development, we shall have to go back to Marconi in England and Italy. In 1899 the New York *Herald* caused Marconi to come to America. It was his first visit to this country and great had been the fame of him here. He was still a struggling young scientist. He had still to convince the world that he had something that was going to

revolutionize message communication. Despite his fame there were thousands who viewed him and his experiments with much distrust.

The *Herald* took advantage of the fact that the first 'of Sir Thomas Lipton's famous *Shamrocks* was going to sail the American sloop *Columbia* for the America's cup. It asked Marconi to come to the United States and by wireless report the contests. The fact that he had agreed to come was published in the *Herald* on September 12, 1899, and it is wholly probable that no announcement by a newspaper in years had attracted half the attention. The steamship *Ponce* was fitted up for the Italian scientist and not the least of the excitement was incident to getting the ship and fitting it out in the manner demanded by Marconi. Authorities of national and international standing gave advice. It would never do to have Marconi arrive and find a ship inadequate to his needs. He came into New York harbor on September 21 and spent the following few days inspecting the city and its environs. A serious, somewhat self-centered young man he was. He spoke but little and then always to the point. He seemed very sure of himself. He set up his apparatus on the *Ponce* and began tuning and testing. He whipped messages to Navesink. The accounts of his operations indicate the vast interest the country was manifesting.

Having made his connections he made himself a great feature of the Dewey parade on September 30, and to the amazement of the country, sent out messages about the parade "as far as twenty miles." That made the populace gasp. The unbelievers began to think deep.

And then the yacht races. The first race had to be abandoned while the sloops were becalmed. The race was not finished. But from the *Ponce* Marconi sent more than 2,500 words in to the New York *Herald* office and the news was ready for the bulletin boards in Herald Square sixty seconds after Marconi pounded them off the key on the *Ponce*.

Eventually *Columbia* won the series of races and by that time Marconi was something of a national hero. On October 5 a rumor spread around New York that the excursion steamer *Grand Republic* had sunk. Marconi, from his cabin on the *Ponce*, flashed the news to the entire city that the steamship was all right and that no accident had occurred. That added to the Italian's fame.

But despite all this there still remained doubt.

"What are they going to do when four or five fellows get to sending messages all at the same time?" demanded the skeptics. "The messages

are going to collide in the air, ain't they?"

On January 19, 1901, the *Princess Clementine* ran ashore in the North Sea and her radio notified Ostend. On February 11 a Marconigram was flashed from Nitron station, Isle of Wight, and the Lizard station, a distance of 196 miles. On December 12 and 13, Marconi standing on Signal Hill, St. Johns, New Foundland, received a series of the letter "S" from his towers in Poldhu, Cornwall, England. In February, 1902, this Italian scientist, on board the first American steamship

to be equipped with the wireless—the liner *Philadelphia*—received a readable message from the Poldhu station up to a distance of 1,551 statute miles, and clear signals over a distance of 2,099 statute miles.

The critics were silenced. There was no further doubt about wireless telegraphy. On December 17, 1902, the first complete readable message was flashed across the Atlantic.

That which followed is of such recent date as to make the telling here idle. The war may have hindered the development of the radio a trifle, but

not so much as it retarded growth in other things. In 1920, you will remember, the great Lafayette radio station at Bordeaux was completed by the United States Government and presented to France. From its peak sprang the first radio message to be heard around the world—a message to the Secretary of the Navy in Washington.

And now comes Marconi back to America to tell us that we are just beginning to appreciate the possibilities of the radio. This time there are no scoffers.

Building Fast Army Airplanes

TEN pursuit airplanes of novel design that will fly faster than 200 miles an hour are being built for the United States Army, Brigadier-General Mitchell, assistant chief of the Air Service, announces. No two of the models will be precisely alike, and in them will be introduced innovations in aircraft construction. The General made this statement after having completed a tour of inspection including the factories in which these planes are now approaching completion. It is expected they will be all finished in time to take part in the Pulitzer airplane races in Detroit in October and in other speed tests.

These Government planes are being built in the shops of the Loening Aeronautical Engineering Corporation, the Curtiss Aeroplane and Motor Corporation, the Lawrence Sperry Aircraft Company and the Thomas-Morse Aircraft Corporation. The motors are being supplied by the Wright Aeronautical Corporation, of Paterson, N. J.; the Curtiss Corporation and the Packard Motor Car Company of Detroit.

The Thomas-Morse planes are to be all metal, equipped with 250 to 400 horse power Wright motors. Lawrence Sperry has incorporated in his new type pursuit planes several innovations. The pilot, by touching a button, may release and drop to the ground at will the entire rubber tired running gear after having taken the air.

The whole construction then remaining beneath the fuselage is folded up, thus greatly reducing wind resistance. When the pilot comes to make a landing he brings into play a set of skids fitted under fuselage and tail

and equipped with shock absorbers, these taking the place of the wheeled running gear.

General Mitchell said he had witnessed tests of this device by Mr. Sperry, president of the company, in Farmingdale, L. I., in which three successive landings were made with a 60 horse power service type of biplane with a speed of seventy-five miles an hour. These craft ordinarily require a roll of 800 feet before being brought to a stop. Mr. Sperry, the General said, halted his skid equipped plane after a roll of less than fifty feet.

Commenting upon the poor showing the United States is making in

military preparedness in the air, General Mitchell said:

"Every nation in the world now recognizes its air force as its first line of defense. The United States now has about three hundred and sixty planes in service, none in reserve, and 300 under construction. France has 2,000 in service, an equal number in reserve and 2,000 to be built this year.

"England has 600 in service, 3,000 in reserve and 1,000 under construction. Japan is creating an aeronautical division and by the end of the current year will have nearly 1,000 airplanes, while Italy's building program for this year calls for 600 ships."

Denies Foreign Extortion

ARCHIBALD BELL, a writer of Cleveland, Ohio, has just returned from Hamburg, after spending three months in Central Europe investigating economic and industrial conditions. He said that he passed most of his time in Germany because that country was more interesting in every way.

"I have been astonished to read the reports of American travelers about the extortionate charges in Europe," said Mr. Bell. "From my own experience I can say emphatically that any one can live in Germany, Austria, Jugo-Slavia and Hungary on one-tenth of what it costs to live in New York. In the Tyrol handsome villas standing in their own grounds, which cost small fortunes to build in the days before the great war, can be purchased to-day for the equivalent of \$1,500 in United States currency.

"I found the German people polite and anxious to do anything to help me to get information and to make me comfortable wherever I went. I spent four weeks in Berlin, but I avoided the big caravanserais frequented by my countrymen and other wealthy foreigners because I wanted to meet the people of the country.

"Germans in all conditions of life told me they were spending everything they had because this coming winter would see the end of the paper marks currency. That was the reason they drank champagne and ate pate de foie gras recklessly at the restaurants. I was told by Germans in a position to know that when the marks are washed out one of two things will happen in Germany, either civil war or connection with Soviet Russia.

"The latter is the popular idea, and on every side in my travel through

(Continued on page 36.)

The Corporation And The Workers

Actual industrial statistics wanted by employes, telling them where the company's money goes; comparing payroll with dividends and capital stock; explaining organization and executive problems

Written especially for AMERICAN INDUSTRIES

By C. M. RIPLEY
General Electric Company

PERHAPS no single thing has contributed more toward misunderstanding between employer and worker than the lack of information which workers receive regarding the actual business done, profits, payroll and achievements of the particular industry in which they are employed.

The experience of the General Electric Company in endeavoring to interpret its business to its employes may not be without benefit to other executives in the electrical industry and in all industries, who are without doubt striving to meet similar problems.

Let me illustrate—there was a strike on some years ago. There stood a picket who evidently was an Italian. In response to the question, "What's it all about, Tony?" the picket replied: "Ah, whata-da-hell? We no getta our \$4 a day, unless Wall Street first getta their \$24 a day."

The earnest way in which the remark was made showed a profound belief that the profits of industry were six times the payroll, and that Wall Street owned the company.

Let us compare his contention with the facts:—The payroll that year was approximately ten times the dividends, instead of the dividends being six times the payroll.

Thus the error was a mere six thousand per cent, as the result of a lack of information plus a generous amount of misinformation. And instead of "Wall Street" being the owner, 28,000 different stockholders, scattered all over the country, are the owners.

The Editor of a Socialist paper was once asked: "Which do you suppose is biggest—payroll or dividends to stockholders?" He replied without hesitancy, "Why, dividends of course."

And, as the conversation developed, he made an estimate that the cash paid as dividends to the stockholders was twice



C. M. Ripley

the amount of the payroll. Later, he published in his paper an illustrated statement showing the actual relationship.

Another instance was that of a labor leader who was sure that the dividends

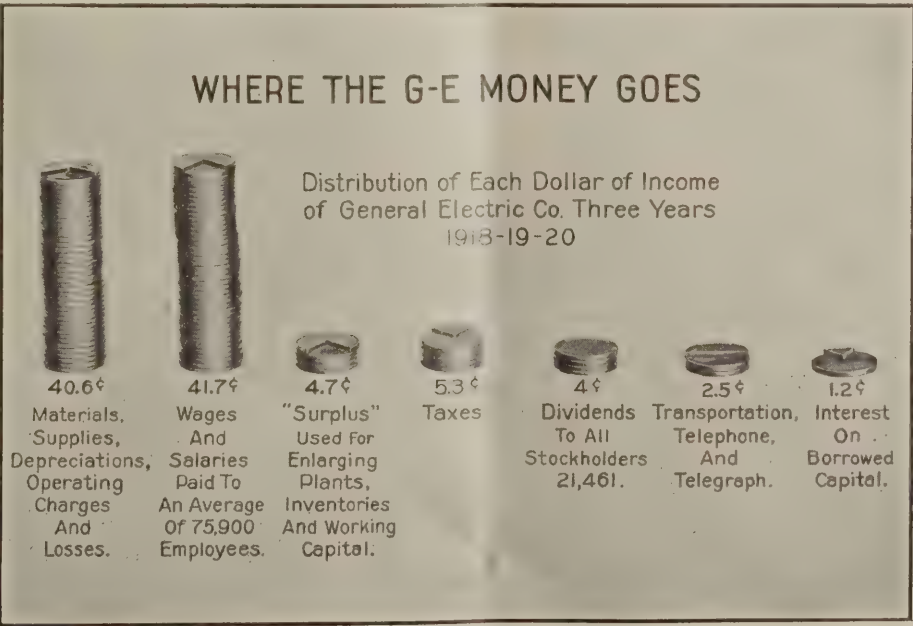
were bigger than the payroll. When asked why he thought so, he replied, "I have always understood it to be so."

By workers is meant all employes, workers of hand and brain. And strange to say, many office employes have shown a similar lack of information.

Not long ago an article appeared in the papers regarding the \$40,000,000 cash of the General Electric Company. One office man was asked how long he thought that \$40,000,000 would last in meeting the cash requirements of the Company? He replied that it ought to last a year. Last year, several office workers, including engineers and college graduates were asked how much money the Company spent every day in 1920. The answer varied from \$10,000 a day to \$200,000 a day. Imagine their amazement when they learned that the company's cash requirements that year were over \$850,000 a day. Thus the \$40,000,000 cash would meet the Company's requirements for just forty-seven days.

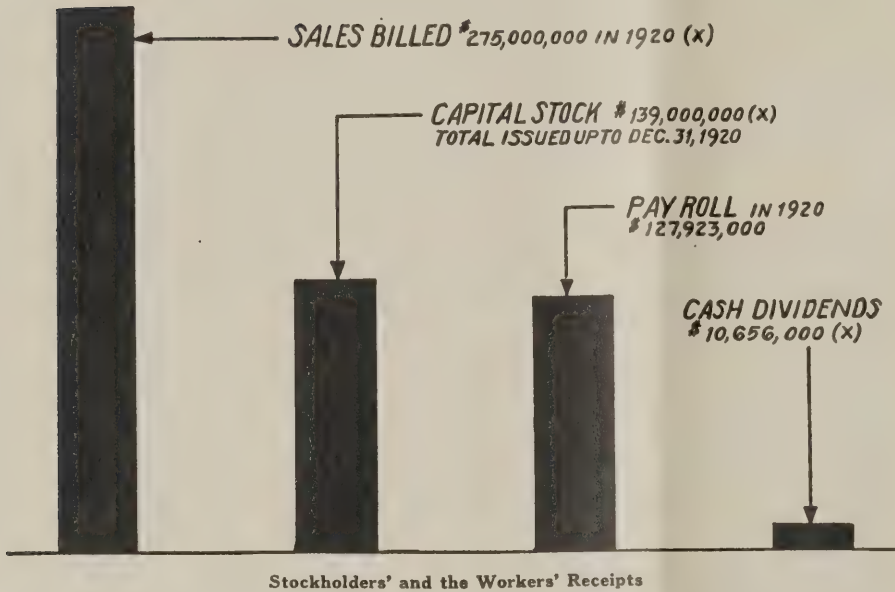
In many conversations with presumably intelligent clerks, engineers, draftsmen, and men in minor executive positions, the subject was brought up of the size of the General Electric payroll in 1920. Estimates varied from "about \$1,000,000" to as high as \$100,000,000—the latter estimate being made by a highly traveled man in editorial work. As a matter of fact the payroll for that year was \$128,000,000—thus showing a lack of fundamental information regarding the problems of industry.

Sherman Rogers says, "Actual industrial statistics for the rank and file employes are as scarce as radium. Each worker of hand and brain should be told



Distribution of the Company money

**CAPITAL STOCK OF GENERAL ELECTRIC CO.
COMPARED WITH TOTAL SALES, PAYROLL
AND CASH DIVIDENDS**
(x) FROM 1920 ANNUAL REPORT



where the money goes that is earned by the industry in which he works, and the persons to tell him these facts are the leaders of that industry."

He further remarks that "If a small per cent of the energy spent in suppressing radical literature, in imprisoning the agitators, and in stopping their meetings, had been spent in publishing actual industrial statistics, and in answering the arguments of these individuals, there would have been but little need to worry about the constitution."

So it appears that the "man in the street" has been uninformed regarding the working of big business. And he has likewise been misinformed. In recent years countless millions of people have been told, via both eye and ear, that the workers receive only 17 to 20 per cent of the value of the products of industry. The campaign has been well conducted in the United States, not only in the English language, but in Russian, Hungarian, Spanish, Italian, Swedish, Bulgarian, Jewish, Lithuanian, Polish, German, Finnish, and South Slavic (Croatian).

Social workers claim that the body if undernourished, becomes an easy prey to disease. Why is it not equally true that, if the mind is undernourished, it will become an easy prey to the germs of false economic slogans, prejudices, etc. These have been built up by seeds of misinformation planted in the mental spaces unfilled by real information.

In an experimental way, an educational lecture was prepared at the sug-

gestion of various General Electric executives, to show in pictorial form and in simple language, the inner workings of the Company. The lecture shows that the materials needed for building the Company's product came from the four quarters of the world, and are gathered by the workers of white, black, yellow and brown races, who although in foreign lands, are the

unconscious partners of the inventors and engineers.

The sales organization of 6,000 employees is described, together with the fifty or more sales offices in the United States, and some of the problems of the sales department are discussed and illustrated.

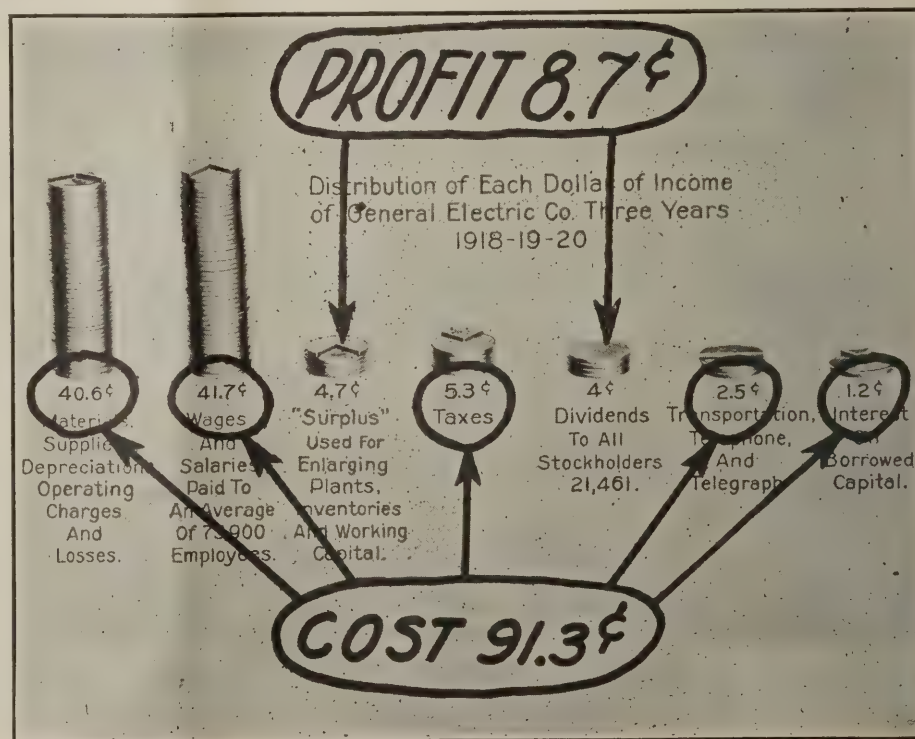
The corporate organization of the Company is described and illustrated by a chart showing relation of stockholders, board of directors, executive committee, general officers, advisory committee, manufacturing committee, etc. It was explained that in 1920 there was an average of 83,000 employers engaged in over one hundred offices and factories in fifty cities.

The distribution of each dollar of the Company's income was graphically illustrated by piles of pennies, showing that on the average for the past three years, the money was spent as follows:

Materials, supplies, etc.....	40.6 cents
Wages and salaries.....	41.7
Taxes	5.3
Surplus	4.7
Dividends to stockholders..	4.
Transportation, telephone and telegraph	2.5
Interest on borrowed capital	1.2

In addition to this, the total 1920 payroll of \$128,000,000 was featured, from which the average employee is shown to receive \$1,538.

The average employee, shown as an imaginary composite creature with thirty arms, was illustrated in an artist drawing. This showed the main functions of the entire organization, as condensed into a single human being.



How each dollar is divided

The sales billed in 1920 divided by the number of employes was equal to \$3,320, and various photographs were shown of different kinds of apparatus and supplies, which the company sells for this sum of money. For instance, a transformer 13 feet high, and with a capacity of 1,250 K.W. (over 1,600 horsepower), was sold for \$3,320, and lantern slide illustrations pointed out that this transformer sold for 15¼ cents a pound (shipping weight), and contained 1.8 miles of wire, 6½ miles of cotton thread, 7.8 miles of paper tape, and 5,300 different pieces of spe-

cial silicon steel.

It pointed out that this wonderful device was designed, the materials purchased, the machine built, sold, painted, boxed, shipped, billed, and the money collected—all in one year of 2,400 working hours. The reason why this can be built by one imaginary composite average employe in one year, was explained as being due to the division of labor, complete equipment, modern organization, and electric drive of factory machinery.

As the result of the sale of 3,320 dollars worth of apparatus and sup-

plies in 1920 (neglecting sundry income) the stockholders received dividends of \$129.00 in cash and two-thirds of one share of stock.

These facts give the employe an understanding of the relationship between sales billed, payroll, cash dividends, and stock dividends.

The numerous requests for this information from all sorts of organizations have almost convinced me that even the labor unions—yes, and the Socialists, too—are earnestly, honestly and eagerly searching for the truth regarding industry.

Breathing Helium Every Day

HELIUM, the wonder gas, which because of its property of non-inflammability is so eagerly sought for the operation of monster military dirigibles, exists in the atmosphere which we breath in the proportion of one part by volume in 185,000, according to Dr. R. B. Moore, chief chemist of the United States Bureau of Mines. From samples of air taken at an altitude of several miles, the proportion of helium has proved to be about the same at at lower levels; at extremely high altitudes, such as 100 miles or more, the proportion may, however, be much increased, says Dr. Moore. Helium is also found in very minute quantities in sea and river water; undoubtedly it exists in some of the fixed stars, as well as in the sun, and its presence has been spectroscopically determined in many nebulae. Helium is found in the gases evolved from many mineral springs. Helium is found also in some volcanic gases, and in many rocks and minerals, being almost always associated with those of radioactive character.

The story of helium is one of the romances of science. Probably nothing, except radium, compares with it in human interest. Helium is one of the best examples of a discovery in pure science that has wide commercial application. In 1868, an eclipse of the sun was visible in India, and several scientific men who were making observations of the eclipse turned a spectroscope for the first time on the solar chromosphere—that part of the atmosphere of the sun, about 10,000 miles deep, which merges into the corona. A bright yellow line was observed and was thought at first to be due to sodium. Janssen showed, however, that this line was not just the same as either the D_1 or D_2 line of sodium, although it was extremely close to these lines, hence he suggested that the new line have the designation D_3 .

Frankland and Lockyer decided that D_3 was due to an element in the sun not previously discovered on the earth, and suggested for it the name "Helium" from the Greek word "Helios" the sun.

For several years nothing more was done in connection with this element. In 1894, Sir William Ramsay, in conjunction with Lord Rayleigh, made his memorable discovery of argon in the atmosphere. After this discovery, Ramsay looked for other sources of the element. He learned that Dr. W. F. Hillebrand, of the United States Geological Survey, had obtained an inert gas from certain uranium minerals, which gas he had decided was nitrogen. Ramsay believed that part of it might be argon; he obtained from Hillebrand for experimentation, a sample of the mineral, cleveite, one of the uranium minerals, and after extracting gas from the mineral and purifying it, he ran it into a spectrum tube. The lines obtained were, however, different from those of argon; among them was the bright yellow line noted by Janssen. Thus was terrestrial helium discovered.

In 1907, Cady and McFarland of the University of Kansas published a report on the presence of helium in several natural gases, mainly Kansas gases. This work disclosed the information necessary for the inauguration of the helium "project" during the war.

Before the World War, the Germans had developed a type of dirigible called Zeppelin, after Count Zeppelin, its inventor. The French and British had no dirigibles at the beginning of the war, but later hastened to repair their deficiency. From experience gained in the defense of London, it was recognized that the dirigible was vulnerable against a well-organized attack. The Germans, too, recognized this and invariably made attacks on

England at night, operating from a high altitude in order to minimize attacks by airplane, as a single incendiary bullet fired into a dirigible would quickly bring the huge ship down, a mass of flames. The inflammability of the hydrogen contained in the ship was the one weak point in this method of attack. The constant danger of a swift and terrible death had its effect moreover on the nerves of operating crews, lessening their efficiency. The remedy for this situation was, of course, to be found in a non-inflammable gas, light enough to replace hydrogen as a lifting force; helium is the only gas known to have these qualities. The use of helium has still other advantages: It diffuses through a fabric at about three-quarters the rate of hydrogen; its non-inflammability makes it possible to place the engines in the framework of the dirigible, thus getting a direct drive, giving greater control of the craft, and much increased speed for any given horse power.

When the United States entered the war, helium for use in dirigibles was discussed among Bureau of Mines' officials, and the matter was presented to the Army and Navy Air Services. These services enthusiastically approved the proposition, and allotments of money were made from the Army and Navy appropriations to carry it forward.

Three experimental plants were constructed in Texas, under the direction of the Bureau of Mines, two at Fort Worth, for economic reasons; one plant used the Linde system of liquefaction, the other the Claude system, and the supply of gas was piped to the plants from Petrolia, Texas. Analysis had showed that this gas contained 95% helium. Another plant was later constructed at Petrolia, near the gas wells, and use was made of a new method of

(Continued on page 23.)

\$100,000,000 For New Highways

Under the Federal plan, each state must watch the appropriation set aside for it, thus aiding toward the general effort to construct a national network that will be of continual service

APPROXIMATELY \$100,000,000 will be spent for good road construction throughout the country during the fiscal year which began July 1. This will be brought about by the continuation of Federal aid for roads under recent authorization of an appropriation of almost \$50,000,000 for distribution among the several states. Under the conditions of the aid each state must match the sum allotted it.

At the same time the Post Office appropriation bill signed by President Harding June 18 authorized an appropriation of \$65,000,000 for the same purpose, to be expended during the fiscal year beginning July 1, 1923, and \$75,000,000 for the succeeding fiscal year. The conditions are the same for all three years and will bring the total amount expended during the period, if the states adhere to the stipulations and expend like sums, to \$380,000,000. The funds will be administered by the Secretary of Agriculture through the Bureau of Good Roads.

It is estimated that the \$190,000,000 appropriated will result in the construction of more than 25,000 miles of road, which, added to the 46,000 miles that are expected to result from previous Federal appropriations, makes a total of 71,000 miles, or nearly forty per cent of the estimated 180,000 miles of good roads on the system of Federal aid roads now being outlined.

With the aid of the \$350,000,000 previously appropriated by the Government, 17,000 miles of road had been completed on last May 31, and in addition, nearly 14,500 miles were under construction, involving more than \$287,500,000 of Federal aid. To match this fund the states have appropriated approximately \$380,000,000, making a total of \$667,500,000.

The average cost per mile of all types of road constructed with Federal aid has been \$17,120, of which forty-three per cent has been the cost to the Government. The new legislation, however, reduces the maximum participation on the part of the Government from \$20,000 to \$16,250 per mile for the first fiscal year, and \$15,000 thereafter. The appropriations are to be used on construction of a connected system of primary, or inter-

state, and secondary, or inter-county, roads.

It is further provided that the states receiving aid must maintain adequate highway departments, must maintain the Federal roads when completed, must construct roads sufficient to the traffic anticipated, and must match the amounts allotted by the Government. Otherwise, the Federal funds for new projects will be withheld.

Plans for the proposed system have already been received by the Bureau of Good Roads from all but eight states, and the state systems are being coördinated so that when joined together they will serve the best interests of the whole country. In the meantime only projects certain to be on the proposed system are being approved.

The apportionment to be made to the various states for the fiscal year which began July 1 is approximately as follows:

Alabama	\$ 1,035,614
Arizona	702,188
Arkansas	836,095
California	1,641,399
Colorado	894,117
Connecticut	320,599
Delaware	243,750
Florida	591,217
Georgia	1,331,972
Idaho	625,691
Illinois	2,164,187
Indiana	1,305,904

Iowa	1,401,915
Kansas	1,401,521
Kentucky	944,786
Louisiana	664,660
Maine	463,440
Maryland	427,086
Massachusetts	730,784
Michigan	1,499,688
Minnesota	1,415,731
Mississippi	863,271
Missouri	1,632,086
Montana	1,031,257
Nebraska	1,054,126
Nevada	635,624
New Hampshire	243,750
New Jersey	628,581
New Mexico	793,216
New York	2,464,299
North Carolina	1,139,556
North Dakota	776,476
Ohio	1,882,003
Oklahoma	1,168,226
Oregon	788,443
Pennsylvania	2,265,969
Rhode Island	243,750
South Carolina	707,492
South Dakota	802,707
Tennessee	1,098,461
Texas	2,950,115
Utah	566,278
Vermont	243,750
Virginia	971,219
Washington	735,806
West Virginia	534,906
Wisconsin	1,263,211
Wyoming	623,078
Total	\$48,750,000

New Railway Equipment

AUTHORIZATION was given recently by the Interstate Commerce Commission which will permit the New York Central and its subsidiaries, the Michigan Central, the Big Four, the Cincinnati Northern, the Pittsburgh and Lake Erie, and the Pittsburgh, McKeesport & Youghioghenny, to go ahead with their plans to acquire \$36,944,072 worth of new equipment, consisting of about 18,500 freight cars and eighty yard engines, the latter estimated at \$32,200 each.

That price shows a considerable recession in the price of yard engines since the peak was reached in 1920. The prices of freight cars run from

\$1,474 for fifty-five-ton self-clearing hopper cars, to \$2,660 for thirty-five-ton refrigerator cars. Steel box cars of fifty-ton capacity are set down in the estimates to cost from \$2,047 to \$2,060 each. The highest unit price for box cars is for the fifty-ton automobile cars for the Michigan Central. They are estimated to cost \$4,222,060.

The authority granted was for the various companies to assume obligations and liability in respect of an issue of \$27,645,000 equipment trust certificates, by the Guaranty Trust Company, of New York, under an agreement dated June 1, 1922.

Free Ports and American Commerce

While they have their drawbacks, shippers and manufacturers, it is set forth, will find them of great value here as they have in other countries and they are a means of broadening commerce

Written especially for AMERICAN INDUSTRIES

By ALFRED H. RITTER
Specialist in Transportation and Port Development

WITH the passage of the Tariff Bill by the United States Senate, containing a provision authorizing the establishment of free ports, or foreign trade zones in the United States, renewed interest is being manifested in this important subject throughout the country.

A free port or foreign trade zone is a segregated area in which goods may be unloaded, stored, sorted, mixed, blended, repacked and reshipped to foreign destinations without payment of duties and without the hindrances necessarily incident to the handling and storing of foreign products within customs territory. In some free ports, goods may be manipulated and manufactured, but this is not permitted in others. The term has no reference to freedom from customary port charges such as pilotage, towage, dockage, etc., nor has it any reference to the suspension of customs duties on goods intended for domestic consumption. Such freedom as is afforded commerce by a free port is confined to the limits of the zone. When commodities landed in the free zone are entered for domestic consumption they become subject to the duties prescribed by law. The free zone must therefore be physically separated from domestic or customs territory by an adequate inclosure with entrances properly guarded.

Especially segregated free zones are of course unnecessary in a country where free trade prevails as it formerly did in England. The free zone is in no way incompatible with a protective tariff, but on the other hand is useful or necessary only in a country having a tariff system. In our own country, it would simplify the administration of the tariff functions by avoidance of the cumbersome and expensive official procedure now involved in connection with drawbacks and the use of bonded storage warehouses and bonded manufacturing warehouses by business against which no duties are ultimately assessed. The disadvantages of the present system have been fully set forth in the report of the United States Tariff Commission, and in testimony before the Committee on

Commerce of the Senate, and the Committee on Ways and Means of the House of Representatives.

The world affords many examples of free ports, and of ports with free zones and free warehouses. Among those now in operation may be mentioned Stockholm and Gothenburg, Sweden; Copenhagen, Denmark; Danzig, Poland; Hamburg, Bremen, Bremerhaven, Cuxhaven, Goestemunde, Emden, Stettin and Brake, Germany; Bilbao and Cadiz, Spain; Fiume, Genoa and Naples, Italy; Trieste, Austria; Sulina, Roumania; Lausanne and Geneva, Switzerland; Gibraltar and Malta. Free ports in the Far East include Hongkong and Tsingtao, China; Singapore, Straits Settlement; Aden, Arabia; Dairen and Antung, Manchuria. Free zones have been authorized at Malmo, Sweden; Hango, Finland; Libau, Windau and Riga, Latvia; Barcelona, Santander, Vigo and Coruna, Spain, and several of these are now under construction.

The port of Hamburg is probably the most conspicuous example. It will be unnecessary to repeat here information regarding the success achieved by the port of Hamburg in world trade. No doubt the success of this port may be attributed in part to the rapid commercial advancement of the German Empire, but it is only fair to point out that Hamburg's eminence as a world emporium for the concentration and distribution of the products of other lands could not have been achieved in the face of the obstacles which are imposed by existing procedure with respect to re-exports at the ports of the United States.

Much of the testimony before the Committee on Ways and Means and many of the statements made by interested parties before the United States Tariff Commission were devoted to arguments for and against free ports as affecting American industry. Opponents of free ports contend that manufacturers within the free zone would have an advantage over their competitors in the interior. This contention has been answered by those in favor of free ports with the suggestion

that such ports or zones can be established in the interior as well as at the seacoast.

Apparently there would be grave difficulty in establishing free ports except upon the seacoast and at points upon the international boundary line. The necessity of properly guarding or accounting for shipments allowed to proceed to an interior zone would largely offset the convenience and saving expected to result in connection with manufacturing for export trade, and the expense would not be warranted for this business alone. Simplification of the drawback procedure would seem to offer the best solution of the difficulties of the inland manufacturer using material of foreign origin.

The International Chamber of Commerce at the General Meeting of July 1, 1921, adopted the following resolution:

"The Congress recommends the creation of free zones or entrepôts francs in sea ports which readily lend themselves either to the re-exportation of goods arriving by sea or to the exportation of home products after mixing with foreign products. Such plan would contemplate authorizing trade operations involving division, packing, re-conditioning and mixing and would make such provision as might appear proper concerning transformation. To this end, each National Committee is requested to take such measures as appear most effective."

The above resolution appears to recognize that manufacturing in the free zone is a subsidiary problem concerning which no general recommendations applicable to all ports and countries can be made. The advisability of permitting manufacturing in the free zone is so intimately associated with the economics of industry and commerce as to require careful study. The practices abroad differ materially and only a few permit unrestricted manufacturing.

At Genoa the extensive warehouses of the free zone are used for the handling and storage of coffee, cocoa, hides, etc., and there is no manufacturing except the manipulation of

coffee. In the free ports of Spain the following operations are permitted—changes in the packing of goods; distribution of goods to assert the different qualities and to take measures for their proper preservation; mixtures for the same purpose; shelling and roasting coffee and cocoa; tanning of skins; sawing wood; washing wool; extracting oil from copra and oil seeds; all other operations which may enhance the value of goods deposited without essentially affecting or changing their nature. Some operations are specifically prohibited, as follows: mixing olive oil with seed oil; adding foreign sugar, saccharine, and similar substances to food products; preparing manufactured spirits and liquors and strengthening wines with foreign alcohol.

Manufacturing is permitted in the free port of Gothenburg, and firms which have obtained licenses from the Government may rent sites from the free port for factories or store rooms. The free port at Danzig has been in operation since 1899, and June, 1921, a commission was appointed to consider the matter of creating an industrial free harbor for the benefit of industries which manufacture principally or wholly for the foreign market, and whose raw materials pay a heavy duty when introduced through the customs. Among those especially mentioned as likely to be benefited are shipbuilding and allied industries, refineries of spirits, rice and flour mills, yeast factories, salt factories, refineries for fats and oils and the manufacture of fats and oils.

Industries established in the free zone at Hamburg consist of 13 shipyards, 8 forges, 4 boiler works, 4 iron foundries, 3 ore working establishments, 1 plant for distillation of anthracite, 12 factories for the manufacture of lubricating oils, soap, vaseline, and the distillation of petroleum, 5 color works, 6 plants for the manufacture of chemical and guano products, 1 for the manufacture of oil cake, 15 alcohol and liquor distilleries, 1 oleomargarine factory, 1 rice mill, 2 sugar refineries, 1 biscuit factory, 2 wooden box factories, 2 cooperages, and 1 manufactory of centrifugal apparatus.

The location of industrial plants is usually determined after a careful investigation of all the economic factors involved. Frequently, proximity to sources of the raw material is the chief factor, but availability of cheap power, nearness to important markets, labor supply and cost, and many other questions affecting economy of production and distribution must be considered. With respect to transportation to foreign markets, the interior manufacturer is obviously at a disadvantage as com-

pared with his competitor at the seaboard. But this is a disadvantage which he has weighed and discounted. If a large proportion of the material entering into his product be of foreign origin, and a large proportion of the output be for foreign consumption, the free port might offer advantages, but not otherwise. There is very little business of this character in the United States. On goods intended for domestic consumption, the manufacturer in the free zone must pay duty on the finished product, and this alone is sufficient to discourage the use of free ports for general manufacturing purposes. Industries abroad consume a large share of foreign raw materials, but even with populous countries immediately adjacent, manufacturing in free zones is of limited importance.

Notwithstanding the great importance of foreign markets in providing outlets for the surplus production of American industries, the domestic market absorbs the major portion of our manufactures. Assuming the case of a manufacturer located in a free zone at the port of New York, such a manufacturer would be deliberately excluding himself from the enormous domestic market at his threshold for all goods manufactured in whole or in part of foreign dutiable goods. It is true that there are some industries using foreign raw materials and having foreign sales in sufficient amount to justify the establishment of branch factories in free zones particularly for foreign business, but the number of such industries is few. Sugar refineries are probably the most conspicuous examples.

The term "Trans-shipment Trade" refers to commodities brought into the free port for the express purpose of reshipping as soon as physically practicable. The goods are really in transit, and the free port is used as a transfer point only.

Dr. R. S. MacElwee, who has spent years abroad in the study of transportation and port facilities and has an intimate knowledge of the conditions at Hamburg, gives the following statement of the service which the free port may perform in facilitating the development of trans-shipment trade:

"The institution of the free port has its economic cornerstone in the load factor. The large ship is more economical than the small one. The trouble is to find cargo for her. Also, the more ships come to port, the better the service, the more animated the business of the port, the greater the possibility of filling the large and economical freight liner. This type of ship gives better service, sails oftener and faster, and generally stimulates business. On the other hand, few con-

sumer communities absorb commodities in shipload lots. A family knows that it can buy veal cheaper per pound by buying a whole calf, but the average family can not use a whole calf. Certain countries may fill a ship with coffee, as Brazil, or with sugar, as Java or Cuba, or with steel rails or harvesters, as the United States, but few markets can absorb such shipments with regularity. The way to secure low freight rates and frequent express service overseas is to be able to unload lots at the warehouse of a great port, from which small short-haul feeder lines distribute the commodities to the secondary markets. In the past, the United States has absorbed cargo lots within its own borders and has therefore had little re-export complications. However, in the future, with the smaller South American markets opened to the United States, it will be good business if many products, now handled uneconomically in broken lots, if at all, be consigned to an American free port in cargo lots for feeder-line distribution to the smaller markets of Mexico and Central and South America."

The trans-shipment business if adequately developed, will supply a large amount of cargo for American ships. The realization of an important trans-shipment trade, however, necessitates the creation of organizations particularly qualified to promote this character of business. To a small extent only do such organizations exist in the United States.

In the past a great deal of business from the small countries of the world has gone to European markets because of the ability of those markets to supply every demand made upon them. For example, an importer at Buenos Aires may desire to purchase a miscellaneous assortment of merchandise which will include products of both Europe and the United States. He would not give this order to an exporter in this country because of the inability of the latter to supply that part of the order produced in other countries. However, he may be able to place the entire order in Hamburg or London, thus simplifying his accounts and securing simultaneous delivery. There can be no doubt that American exporters lose much business because of their inability to supply the full needs of foreign buyers. The privileges of the free port will permit the stocking of foreign products of certain kinds especially needed to enable our exporters to engage in this character of business. Objection has been made that this reconsignment trade might eventually rob American manufacturers of a large amount of business be-

(Continued on page 26.)

Fire Prevention Week Near

Annual national effort will begin the first of next month to impress upon workers and leaders in industry the necessity of preventing the tremendous waste occasioned by carelessness

Written especially for AMERICAN INDUSTRIES

By R. S. Moulton

National Fire Protection Association

FIRE Prevention Week is to be observed this year throughout the United States and Canada on October 2nd to 9th. Unlike other "weeks" and "days" which commemorate worthy purposes, but in which the average individual can see no direct interest to himself, Fire Prevention Week stands out as being of direct interest to everybody.

While the history of fire goes back into antiquity modern thought of fire usually goes back to the great Chicago fire of 1871 as being the first of the major American conflagrations. The story of this fire is familiar—how Mrs. O'Leary's cow kicked over the lantern that started the fire which destroyed the city and killed 200 of its citizens. Since the Chicago fire annual fire losses have been increasing year by year until they now run to the staggering total of nearly \$500,000,000, and it is estimated that 15,000 people are burned to death in this country every year.

This loss of life by fire is appalling; 15,000 people burned to death every year is one about every half hour. The gruesome details of this make another story. It is my purpose here to deal solely with the economic phases of the loss.

\$500,000,000 a year is a sum so large that the mere figures are meaningless, but it has more significance when we say that this means an average of nearly \$1,500,000 a day or \$1,000 a minute.

This loss is making us poorer as a nation, and what is of more importance to the individual, is making each one of us individually poorer. The average man does not realize this. After a fire he asks, "Was it covered by insurance?" and if he hears that it was, gives the incident no further thought, for he feels that the insurance companies are paying the loss and that it is no concern of his. Nothing could be further from the truth, for the insurance companies are but collectors and distributors of the fire tax, for everything is insured. Take, for example, a suit of clothes. From the time the wool is sheared from the sheep it is insured: insured during storage, insured in transportation, insured in manufacture and insured in the retail

store. And when we buy a suit of clothes we pay this accumulated insurance—our share of the fire tax.

In order to measure the total economic effect of fire, to the direct fire



R. S. Moulton

loss we must add the indirect expenses incident to it; that is, the cost of fire departments, water supplies for fire protection, and the maintenance of the vast machinery of the insurance business. It is estimated that these indirect factors double the total, making the aggregate fire waste nearly \$1,000,000,000 a year. This billion dollars is a loss of capital assets. It takes no very great stretch of the imagination to picture how great would be the benefit to the country as a whole if the amount of this loss, or a substantial part of it, could be saved and devoted to useful purposes. Every individual would feel the effect immediately.

It has been conclusively proved that a very great proportion of this fire waste is strictly preventable, according to some statistics as high as 90 per cent of it—preventable by ordinary, simple precautions and common carefulness. Carelessness, the liking to take a chance, is inherent in the American people. It can only be eliminated by a long and slow process of education.

Its effect on the fire loss may be illustrated by the fact that the largest single cause of fire is "matches-smoking," which is responsible for an average annual total of \$20,000,000. The results of carelessness can be minimized by proper construction and fire protective features. In the fight against the fire waste we must both combat carelessness and at the same time construct so as to minimize the destruction due to carelessness.

The fire prevention movement is comparatively recent. Its first origin was in New England, where conditions were so bad and losses so high in mills and other manufacturing establishments that insurance was prohibitive. A little later the National Fire Protection Association was organized, in 1895, a handful of men getting together with the common purpose of checking the increasing fire waste. The growth of the movement has been slow, but it is gathering momentum, and during the last ten years has had a very material, but as yet altogether insufficient, effect on the fire losses.

Within the last decade the need of concentrated drives to reach the public consciousness has been more and more apparent. This has resulted in the setting aside of the anniversary of the Chicago fire of 1871, October 9th, as Fire Prevention Day. Fire Prevention Day observances began about ten years ago in the Middle West, and have increased in scope and importance under the leadership of members of the National Fire Protection Association. The movement has become international, and by 1920 it was of sufficient importance to be recognized by a proclamation from President Wilson and at the same time by a royal proclamation in Canada. The chief executives of the States and Provinces followed suit, and Fire Prevention Day was observed throughout North America. In 1921, the fiftieth anniversary of the Chicago fire, President Harding's proclamation marked the inauguration of a campaign surpassing anything previously attempted. By this time many communities felt that the important subject of fire prevention could not be covered in one day, and devoted cam-

paigns of a week or ten days to it, and so at the National Fire Protection Association convention in May, 1922, it was unanimously voted that the sponsorship of Fire Prevention Day should be extended to Fire Prevention Week.

Fire prevention efforts should and do go on uninterruptedly through 365 days of the year. Fire Prevention Week is not intended to be a short drive, the objects of which are forgotten as soon as the dates are passed; it should rather mark the beginning of a year in and year out campaign. But these concerted drives are necessary to bring home to the public at large—to almost everybody except a very limited group of fire protection engineers and enlightened citizens—the seriousness and importance of the fire waste. The old saying that "Everybody's business is nobody's business" is nowhere truer than in the field of fire prevention. It is with the utmost difficulty that the

average man is convinced of the need of fire prevention house cleaning in his own home or factory. He feels there can be no danger in his plant, although fires may come to his neighbor because of carelessness. He is strangely unwilling to see that his own property may need attention. For example, the average owner or manager of a "fire-proof" building feels that he is safe. He does not realize that though the walls of his house may stand, like the walls of a stove, the contents may burn, as the fuel in the stove, and destroy his home or his business; and that no matter how fully he is covered by insurance, no amount of money collected from an insurance company can possibly compensate for the indirect losses resulting from fire.

As previously stated, fire losses have been increasing from year to year until they are now nearly \$500,000,000 annually. By watching the rising curve

of loss one might get the impression that the loss is increasing inevitably, and that all the fire prevention efforts so far expended have been futile. Such is far from the case. The seed of fire prevention has been sown; with cultivation it will eventually come to fruition, but cultivation over a long period of years will be needed before

What is of especial interest is that we do not need to wait for a reduction in the loss to the country as a whole, for the matter is local, and any enterprising city may secure a reduction in its insurance rates by reducing its fire losses.

What was accomplished a few years ago in Cincinnati is a typical example

of this. In 1903 a campaign of fire prevention was inaugurated there. For the first few years little progress was made, but later the building code was amended to require a better class of construction, a fire prevention bureau was given authority to enforce the rulings of its inspectors, and gradually the results became apparent. In 1910 the reduction in insurance rates began, and continued with gradual reductions every year or so until by 1918 the total reduction amounted to 31 per cent, making an annual saving of \$850,000. Indianapolis is another city which is now very ac-



A disastrous fire along the New York waterfront

this result is attained. One fire protection engineer of a statistical turn of mind has computed the fire loss expectancy for a long period of years basing his figures on increasing population and property values. He finds that during the last few years the actual fire loss curve has been below this expectancy curve, and that there was a saving of \$38,000,000 in 1921.

All this may sound rather remote and detached from immediate application, but when it is said, "If through your help in fire prevention, the fire loss in your city is reduced, you will very soon benefit by having reduced insurance rates" the matter begins to have more personal significance. Insurance rates are based upon fire losses and when fire losses are reduced, lower insurance rates inevitably follow, insurance, of course, being merely the individual property owner's contribution towards aggregate fire losses.

tively attacking the fire problem and has been carrying on a continuous fire prevention campaign for the last year.

The Fire Prevention Week campaign of 1922 is to carry on and extend all these efforts, to reach the public as it has never been reached before, and to put a stop to the increasing ravages of the Fire Demon. The interest in this campaign is becoming more and more widespread. This year for the first time the Chamber of Commerce of the United States is actively urging the chambers of commerce throughout the country to sponsor local fire prevention activities. This campaign needs support and every individual is urged to lend interest and take active part in the campaign, for by so doing he will not only be helping fight the fire waste which is impoverishing the nation, but his efforts will contribute toward saving money for his own pocket.

Dust That Blows Things To Bits

Explosive particles form a great menace in industrial plants and during the last year caused the loss of nearly one hundred lives and the destruction of something like \$7,000,000 property

IT has long been known that dust is a source of danger in industrial plants, but only recently has it been realized how serious a menace it is.

During the past year dust explosions in industrial plants have caused the loss of nearly one hundred lives, injuries to a much larger number and damage to foodstuffs and property in excess of \$7,000,000.00. Such fatalities and losses not only invite but compel serious thought as to the dangers in dust.

Considerable experimental work has been carried on to determine the flammability of industrial plant dust. It has been found that dust is dust and no matter what its nature is liable to explode when properly diffused in the air and in right conditions. Dusts until recently considered non-explosive have "let go" with terrific force as demonstrated in explosions of aluminum, rubber and cork and fish dust.

Having determined by experiment that most any kind of dust will explode it has been a source of surprise that such inoffensive looking stuff has such power in it.

The explosive pressure of various kinds of dust is given in the following table:

Pressure generated.	
Kind of dust	Lbs. per Sq. Inch.
Stinking Smut of Wheat.....	15.9
Dextrin Dust from Dextrin Kiln.	14.6
Powdered Wheat Starch.....	14.0
Starch Dust (corn) from Dry	
Starch	13.8
Tan Bark Dust (200 mesh)....	13.3
Wheat Elevator Dust (side walls)	13.0
Wood Dust, from chipper room..	12.8
Oat and Corn Dust.....	12.6
Sugar (lump pulverized to pass 200 mesh)	12.2
Feed Dust from dust collector..	11.8
Potato Flour	11.7
Wheat Flour, from packing room.	11.2
Malt Dust	10.6
Fertilizer Dust	10.5
Tapioca Flour	10.4
Pittsburgh Standard Coal Dust..	10.1
Cocoa Dust from Cocoa Bolters..	9.9
Sulphur Dust (extra fine).....	8.8
Cork Dust (ground)	7.4
Rice Flour	5.6
To make the figures given above	

more understandable and give a clearer idea of the tremendous pressure created when dust explosions occur, let us illustrate in terms of weight, area and lifting power.

Coal dust and flour explosions are propagated at about the same velocity and develop approximately the same pressure. Upon investigation it has been found that .02 of an ounce of coal dust per cubic foot of air space is sufficient to produce an explosive mixture. On the basis of .02 of an ounce per cubic feet you only need in the average room 20 x 20 x 10 eighty ounces, or five pounds of dust diffused in the proper proportions through the air in a room of that size would be sufficient to blow it apart. One hundred pounds of dust would blow apart twenty rooms 20 x 20 x 10 or over eighty thousand cubic feet. A ton of dust, 2,000 pounds would be sufficient to blow apart four hundred rooms 20 x 20 x 10 or a total of 160,000 cubic feet.

In an experiment a box was constructed containing about two cubic feet of air space and then two ounces of flour dust was blown into a Bunsen burner on the inside of the box and the explosion was sufficient to lift two men standing on the lid of the box.

If a sack of flour suddenly be thrown into suspension, diffused with the right proportion of air and subject to favorable conditions the explosive pressure generated would lift 2,500 tons 100 feet high.

These data are startling and yet none the less true, and come from such authoritative source as D. J. Price, Chief Engineer, Bureau of Chemistry, United States Department of Agriculture. They mean that the manufacturer must get rid of dust in his plant.

Right here let us call attention to the difference between dust collecting and dust removal, terms which have come to be adopted by engineers to differentiate between suspended and static dust elimination.

Dust collecting is the handling of suspended or floating dust and is really ventilation.

Dust removal has to do with static or settled dust and is an entirely separate, quite new, distinct and highly specialized branch of engineering.

This menace must be guarded against and adequately. The initial cost may seem expensive but a saving in cost will probably get about the protection you pay for. When an industry determines to carry its own risk, thinks its present precautions as to dust collecting are adequate, the way would seem clear, but for that ghost of Banquo, the catastrophe hazard, the dust explosion which follows along the paths of all human activity and seizes on the unguarded, unknown danger point.

BREATHING HELIUM EVERY DAY (Continued from page 17.)

liquefaction, called the Jeffries-Norton process. All three plants produced helium, but the Linde plant proved the most efficient, and it was decided to construct, under the cognizance of the Navy, a much enlarged plant for obtaining helium in greater quantities. The construction of this plant was started in October, 1918; it was completed in December, 1920, and was operated during part of 1921. It produced altogether about 2,000,000 cubic feet of helium, which, with the helium obtained at the smaller plants during the experimental period, makes available at the present time a total of about 2,400,000 cubic feet of helium over 90% in purity. Most of the gas is around 95% grade.

Before the completion of the large plant, the two experimental plants at Fort Worth were shut down and dismantled. The plant at Petrolia, Texas, was continued, however, until July, 1921, on a purely experimental basis. It was then shut down, and at the present time is being kept in a standby condition.

The method of operation in all of these plants is, in general, the same. The object is to liquify all elements making up the natural gas except the helium, which does not liquefy at the temperature used. After liquefaction of all other constituents in the gas the helium can be pumped off.

No production of helium is now in progress, but funds will probably be furnished by Congress to run the large plant at Fort Worth practically during the whole of next year.

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EDWARDS, EDITOR AND MANAGER

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CURBING LAWLESSNESS

By JOHN E. EDGERTON

President, National Association of Manufacturers

IN a recent press statement the President of the American Federation of Labor was quoted as saying that there is a conspiracy among the business interests of America to "smash organized labor." The inspiration of this statement was admittedly a telegram that the National Industrial Council sent out to its affiliated bodies with a view of emphasizing the importance of the railroad controversy to the manufacturing interests of the nation. Being chairman of the National Industrial Council and familiar with the telegram referred to, I am constrained to challenge the implications of the statement.

The overshadowing issue in America to-day is very clear in spite of the studied efforts to confuse it. It is not whether labor or any other group of citizens has a right to organize nor whether or not citizens have a right to bargain collectively. So far as I know there is not a person of rational mind

in America who has ever denied such rights. But the mere right to organize does not even imply the right to operate an organization in an unlawful manner or for unlawful purposes. The President of the American Federation of Labor knows this as well as everybody else. He should know, too, as every intelligent person knows, that the same genius which confers upon any group the right to organize and to bargain collectively confers also upon others the right to deal or not to deal with such an organization.

The supreme issue is whether or not law in this country shall prevail and whether organized labor or any other organized group is to be regarded as bigger than the Government of the United States, and whether the laws and traditions of this country shall be set aside in order to accommodate the lawless tactics of a small group which is obviously trying to impose its arbitrary will upon the nation. It appears that every court decision and every act of the government that is intended to curb the arrogant disregard of law on the part of certain organized groups of wage earners and every criticism of or resistance to the lawless practices of their members are proclaimed by the President of the American Federation of Labor and his associates as evidences of a "conspiracy to crush organized labor and to deny to the working man the right to organize." Such absurd charges as these are obviously equivalent to a confession that only by lawless methods and defiance of the rights of others do such organizations hope to perpetuate themselves.

I believe that all good citizens endorse the famous declaration of President Roosevelt's Anthracite Coal Commission, which said: "A labor or other organization, whose purpose can only be accomplished by the violation of law and order of society, has no right to exist." The man who works with his hands or who draws his compensation in the form of wages has no more right to be an outlaw than has anybody else. Industrial problems cannot be worked out in an atmosphere of anarchy. Peace purchased at the price of any concession from the eternal principle of right or of law and order cannot endure very long. Unless men can come together with mutual faith and in

mutual sincerity of purpose and with mutual respect for and subservience to the laws and institutions of our country there can be no hope of agreements that will survive the necessities of the occasion.

Not only the business interests but all other substantial elements of our citizenship, including the vast majority of organized and unorganized units of labor, are concerned about this matter. There are millions of law-abiding working men who are in this so-called "conspiracy" to smash organized lawlessness in this country. When members of any organization defy constituted authority and shoot down in cold blood innocent men, women and children, as was recently done at Herrin, Illinois, it is time for the people of this country to rise in their wrath and make such things impossible. That Herrin massacre shocked the sensibilities of every self-respecting man in America who heard of it. Yet, so far as I have been able to learn, the officials of the organization whose members are charged with being responsible for the horrible outrage have never uttered a word of condemnation of the crime, nor one word of sympathy for the families of those working people who were so ruthlessly murdered, nor have they turned a hand to bring the guilty fiends to justice or to rid their organization of the odium. In fact, while that unspeakable crime was being planned and perpetrated, the President of the American Federation of Labor was at Cincinnati, in an adjacent state, making an assault upon the Supreme Court of our land for having dared to render a decision contrary to his conception of governmental propriety.

The employers of labor in America will continue to find it impossible to deal in a spirit of amity with the official representatives of an organization that appears to look with complacency upon crime and to tolerate and encourage by silence disrespect for and defiance of law. The issue cannot longer be clouded by demagogic appeals to hate and prejudice and by hypocritical cries of injustice to working people when the unrighteous tactics and practices of some of their leaders are challenged. Exploitation of the wage-earning masses by men who purposely

N. A. M. CONVENTION

At a recent meeting of the Board of Directors of the National Association of Manufacturers it was determined that the next Annual Convention of the Association would be held in New York City during the week beginning May 14, 1923.

mislead them is as much to be despised and resisted as if indulged in by any unscrupulous employers themselves.

The first task therefore is for all good American citizens of whatever group or class to get together in patriotic purpose and crush out lawlessness, from whatever source, and reenthroned our immortal Constitution as the ruling instrument of our national will. When, and only when that is done, can abiding peace in industry be established on a permanent basis. Love and not hate is the law of life. It is the mother of the only justice that will endure.

LABOR vs. LABOR, et al.

A CARTOONIST in a local daily newspaper presents an interesting and suggestive picture consisting of a group of workmen who find on arriving at their place of employment that the factory has been shut down because of a lack of coal. The men, apparently puzzled and not a little surprised, keep saying to themselves, "but we are not on strike." There is a lesson here that labor generally would do well to ponder thoughtfully.

The coal and railway unions have for weeks, and indeed months, been hitting desperately, and not without considerable success, at the public. Their purpose has been, of course, to force the consumers to bring pressure to bear upon the coal operators and the railways to the end that they be made to yield to the demands of the workers. No doubt they have succeeded in putting "capitalists" and "financiers"—the latter are alleged to "control" about everything in the universe—to considerable inconvenience. But do these unions realize that after all the chief sufferers from their tactics

are inevitably their fellow laborers?

Not only are men thrown out of work, thereby losing for a time the means of support for themselves and their families, as the cartoonist suggests, but if there is a serious shortage of fuel for domestic uses it will be the poor who suffer first and most severely. There are plenty among these who are fully as skilled workmen as the coal miner and the railway shopmen and who have no hope at best of obtaining wages equivalent to those received by the two latter groups. How long will it take labor generally to realize facts of this sort?

RIDICULOUS STATEMENTS

SOME ridiculous statements get into print.

One of the farm publications says: "The annual waste of razor blades, used once or twice and then discarded, would build a railroad from Hongkong to Seattle, including bridges and culverts."

So?

In 1920 the Gillette Safety Razor Company, which supplies perhaps 65 or 75 per cent of the blades used in America, if not in the world, sold 19,051,268 dozen. Safety razor blades sell at less than \$1 a dozen retail and 1920 was the biggest year up to that time in the company's history.

How far would \$20,000,000 go in building a railroad from Hongkong to Seattle?

Did the farm publication mean to bridge the Pacific or merely build a railroad of the mileage from Hongkong to Seattle?

If bridging the Pacific were a possibility, there isn't enough money in the world to pay the cost. And why culverts in an ocean?

One office building in New York—the Equitable—cost more to build than is spent in one year by all the people of the earth on safety-razor blades.

AUSTRIA'S ECONOMIC PLIGHT

HOW desperate is the plight of Austria is attested by the controversy which has broken out over disposition of the remains. France wants Austria joined to the Little Entente and thus made a vassal of the states

ANNOUNCEMENT

In this issue "American Industries" begins a series of signed stories by the Governors of our possessions, showing how they fit into the economic scheme of the United States.

largely carved out of the old Austro-Hungarian empire. Italy opposes this and would establish an Italian protectorate over what territory has been left attached to the ancient capital of the Hapsburgs.

There might be poetic justice in placing the Austrians at the tender mercies of the Czechs, Slavs and other peoples they so long oppressed, but Italy sees in this proposal a menace to her own safety, and is unwilling to be a party to a program which would insure the safety of France at the expense of her own security. So the proposal of an Italian protectorate is advanced, coupled with the suggestion that the Duke of Aosta, cousin of King Victor, be made Viceroy of Austria.

Thus it is seen how thoroughly Europe is getting away from the idea back of the League of Nations and how completely it is returning to the old theory of balancing powers. It is the doctrine which Clemenceau stoutly championed at the peace conference, but which he and other European statesmen appeared to abandon at the insistence of President Wilson and in the expectation of American assistance. Now that there no longer is need or prospect of profit or pretense, European statesmanship is following its natural bent.

It is evident that something must be done to make the situation of Austria economically possible. The Austrians prefer to seek a way out of their difficulties by uniting with the other German states. France will not agree to this, because it would mean a stronger Germany. On the contrary, French policy aims at strengthening the Little Entente and an alliance with the Powers which constitute it. To Italy this would mean merely the building up of a new menace on her eastern borders to take the place of the old menace of the Austro-Hungarian empire, and Italy never will consent to such a program.

(Continued from page 20.)

cause exporters would be able in some instances to fill orders entirely from foreign goods. This question requires careful consideration in the interests of American industry, but so far as the interests of shipping alone are concerned, the reconsignment business will be a valuable adjunct to the trans-shipment trade.

One of the important purposes of our protective tariff system is to eliminate the margin in the cost of production which gives foreign countries an advantage in trade within our borders. While the free port in no way affects the amount of duties imposed on foreign manufactures for domestic consumption, it offers to them better facilities for entering our markets. Our own manufacturers have found it profitable to stock goods in the warehouses of foreign free ports so that they would be in a position to take advantage of market conditions. The scope of commerce is broadened by free ports, and where successful they become important emporia for world trade. The effect upon some American industries, however, might be unfavorable, but apparently no study of the matter with relation to specific branches of industry has been made. It might be pertinent to inquire, for instance, regarding the effect of maintaining in storage at free ports of the country large quantities of Belgian glass and German cutlery. The cost of holding foreign goods in free ports would be less than the cost of holding similar American goods in warehouses in this country, because of the lower valuation of foreign goods prior to assessment of duty.

One of the factors contributing to the success or failure of a vessel to earn a profitable return is the promptness of her turn-around. Vessels are earning only when in motion and time spent in port from whatever cause reduces the annual cargo capacity and increases the cost per cargo ton. The average time now spent in port by cargo vessels of from 5,000 to 10,000 deadweight tons is about 10 to 12 days, but delays frequently occur which seriously increase the time in port.

The administration of the laws respecting customs often involves serious delays to the ship. The customs inspectors or guards keep close surveillance over the cargo from the time the ship berths until it is removed by consignee or deposited in bonded warehouse. Since goods may not be removed until they have passed such inspection, they must necessarily be held upon the pier or in the transit shed where they block the traffic and interfere with the expeditious unloading of the ship. At New York and other ports having narrow piers of lim-

ited area requiring the removal of goods by drays to warehouses more or less remote from the pier, it is impracticable to secure dispatch.

At a free port or free zone no such impediments to the prompt unloading of the ship would occur and the speed of unloading would be controlled only by the capacity of the physical facilities at the terminal. There can be no doubt therefore that the establishment of free zones will result in a better turn-around for American ships and insure more favorable opportunities for profitable operation, provided the terminals are planned with due regard to the needs of the traffic.

Many of the important raw products of the world are produced in countries of small population and limited consuming ability. The tonnage of the exports from such countries is normally far in excess of the tonnage of their imports. The amount of American goods which may be exported on one ship to a country of this character is usually small. This condition has necessitated the use of triangular routes in order to avoid the poor load factor which is involved in direct service to such countries. Thus it happens that the maritime nations have concentrated their efforts upon controlling a large share of the shipping to and from certain markets which they find themselves in a favorable position to develop. In such a development the free port or some institution affording similar conveniences is indispensable. The focusing at one port of goods for re-export to countries producing raw materials, permits the establishment of regular vessel service, and inevitably results in drawing to that port the larger portion of the raw materials of such countries. Thus Hamburg has become an important world market for rice; London for wool, tea and tin; Liverpool for cotton; Glasgow for hides; and Amsterdam for rubber.

As an indication of the extent to which we are now dependent upon certain maritime nations for the procurement of products not originating in the country from which imported, the following list of articles imported by the United States from Great Britain during the calendar year 1920 is presented:

Barks, cinchona.....lbs.	728,200
Salts of cinchona bark. "	624,921
Gum arabic	2,263,595
Copal	4,092,209
Cocoa	13,464,802
Coffee	3,491,082
Cork	1,877,034
Cotton	14,006,601
Ostrich feathers.....	47,719
Jute	663
Sisal grass	3,565
Dates	4,824,501
Raisins	5,046,074

Cocoanut meat (shredded, dessicated).....lbs.	1,534,624
Brazil nuts	223,643
Shelled peanuts	746,157
Furs, undressed.....No.	27,786,542
Furs, dressed	493,622
Balata, unmanufactured lbs.	870,246
Gutta-jelutong	274,145
India rubber	75,297,015
Ivory	162,426
Oil cake	14,954,350
Chinese nut oil.....gals.	300,709
Cocoanut oil	499,751
Olive oil	40,256
Palm oil	29,728,509
Platinum	16,307
Diamonds	29,257
Pearls	\$3,235,320
Shells, mother-of-pearl.lbs.	1,628,837
Raw silk	1,915
Capsicum	734,991
Cassia	6,521
Cloves	3,106,239
Ginger root	3,306,623
Nutmegs	186,645
Pepper	3,567,504
Sponges	856,847
Cane sugar	36,267,263
Tea	13,779,623
Tin ore	1,039
Tin in bars, blocks, etc.	24,243,812
Tobacco	6,134
Wood pulp	2,167
Hair of angora goat...lbs.	1,043,100

The above list is not intended to be complete but will furnish an idea of the large amount of material which we procure by indirect routes. Bearing in mind that Great Britain sold similar articles to many other countries besides the United States it will be seen that the business must be enormously profitable. The total value of articles of foreign and colonial merchandise exported from Great Britain in 1913 was £109,575,037. The absence of similar trans-shipment and reconsignment business in this country is an obstacle in the way of the development of our Merchant Marine.

Study of our trade statistics clearly shows the lack of sufficient return cargoes to the countries from which we secure the larger share of the raw materials which move in greatest volume, and likewise shows the lack of a sufficient volume of heavy imports from the countries to which our major exports are destined. From a personal examination of the cargo situation at a number of our important ports, the writer has been deeply impressed with the unfavorable conditions affecting the ability of American ships to establish well-balanced trade to and from the United States. With the advantages offered to us by the Panama Canal route it is time for us to adopt a policy having for its object a gradual correction of the cargo deficiencies of our trade routes.

Planting Yankee Trees In France

American Forestry Association is sending millions of seeds of the fine woods of this country to help reforest the lands devastated during the war—and pointing lesson for American industry

Written especially for AMERICAN INDUSTRIES

By ARTHUR NEWTON PACK

European Commissioner, American Forestry Association

WE all remember during the World War that almost every account of a battle seemed to have the word "wood" on the end of it. If it did not it was safe to assume that a wood was not far away, particularly in France. Soon Yankee tree seeds will be healing those scars of war. The seedlings are well up from the first shipment of tree seeds, for three years ago the American Forestry Association sent from Boston the first allotment of tree seeds. Since that time another immense shipment was made in April this year, on the anniversary of our declaration of war against the Central powers.

France has always, and rightly so, been very proud of her forests. When the trees were presented to Ambassador Jusserand and Mr. J. J. Broderick, counsellor of the British Embassy, Mr. Jusserand said "America has again come to the rescue." That is not stretching the point for indeed France is in great need of quick restoration of her forests.

In that need is a great lesson for American business men. Forest products are the backbone of every industry. The wheels of industry cannot turn without forest products. They enter into every phase of our daily life. No foreign foe has ever laid waste our great forests, but fire and reckless cutting have. We of this country must put our idle land to work just as surely and quickly as must France and those other parts of Europe, particularly Great Britain, where there was wholesale cutting to meet the call of war.

The fine spirit with which the unique present was received and how the tree seeds will help to bind the Allied Nations together is shown in the following general order by the French ministry:

"The plantations made from the seed presented to us by the American Forestry Association should be located in places readily accessible to the main traveled roads and, if possible, on or near well-known sites, with the view that such future forests remain as a monument to the partnership of France and America in the great war."

In the British Isles which lost the

most forest cover because it was there cutting was done on a wholesale scale to meet the demands of war, the same



Arthur Newton Pack

good feeling prevails. In Belgium, too, the work is going forward, and in the once beautiful Ardennes mountains, where German axes left nothing stand-

ing, patches of American Douglas fir are rearing their heads where once was the mark of the German heel. During my three month inspection trip I visited many of the places where the trees will go or have gone. This listing of the places will be of the greatest interest to all Americans who were "over there" or plan to go. Here are some of the places:

In County Tyrone, Ireland, where the best nursery showing of any planted by the British Forestry commission has been made.

In the forest of Normal where in a 25,000 acre forest of pine and beech the German axe left nothing but the smallest saplings.

In the Ardennes mountains bordering the old duchy of Luxembourg.

Along the Caledonian canal, Scotland, known to all the American navy because it was there the American submarine chasers were mobilized.

Along the Chemin des Dames, where the Doughboy made history.

Around Lille, Valenciennes and Hirsion, at the doors of reviving industry.

In the forest of Saint Gobain and around the ruins of the famous Coucyle-Chateau.

A tremendous task faces the Allied countries and the magnitude of it is seen in the fact that Great Britain's program calls for fourteen thousand pounds of seed per annum while France needs an equal amount and because of the summer drought Belgium needs almost as much.

The seedlings were placed first of all by the French government along the Chemin des Dames where the glory of the doughboy is forever enshrined. So awful was the artillery fire, hardly a charred stump remains of the once thick forest along the slopes. But now row on row, like the poppies of Flanders, the seedlings carpet the slopes once gouged and torn by battle's heel in the struggles against militarism. These trees will be an inspiring memorial in the years to come. American trees too will be found taking the place of their comrades who fell in the forest of Saint Gobain and around the ruins of the famous Coucyle-Chateau, dynamited by the retreating Germans.

Yankee Trees in France

No futile wreaths that fade and die
Whose life is but a day,
Can truly honor those who lie
So many leagues away;
Nor fainting blossoms represent
The hope, the strength, the urge
Of Youth incarnate—why, it sent
Them laughing, to the verge.

For those who perished overseas
Our glorious host that lies
In France, let hosts of living trees
Gloriously arise.
Rise where charred limbs of older trees
Flung mute against the sky,
To countless wanton cruelties
In silence testify.

And at some distant future day
When we, who mourn them now,
Because they died—the self-same way
Have followed them, oh, how
Shall we deserve so fine a thing
For our memorial,
As trees lit with the green of Spring,
Or scarlet fires of fall?

—San Francisco Chronicle.



In the "Red Zone" of France two million acres must be reforested

To the north the German army cut every stick of available timber for its own use. In the forest of Normal stood acres of beautiful pine and beech forest, of which nothing remains today except the stumps. So vast an undertaking is involved in replanting everywhere at once that here the French have adopted a somewhat different system—clearing and spading up only a little circle here and there wherein our seed has been sown directly without the intermediate nursery state. The loss may be heavier but the labor of reforestation should be lightened.

This experiment with our seeds is of unusual interest to us in America, where planting labor costs are so high and it may be that an experiment made with American Douglas fir in France will prove to have real value to forestry in America. The whole northern district, Lille, Valenciennes and Hirsion is part of the great coal mining and manufacturing center of France which the German army so thoroughly demolished and because of their location at the door of reviving industry the woodlands here, splashed with patches of American trees will hold some of the highest commercial value of any forests in the world. No better proof of the importance of reforesting our own eastern areas need be sought.

Both France and Belgium are greatly pleased with our American Douglas fir, which with us is found in the greatest abundance on the northern Pacific Coast. M. Crahay, who has for some years been the very active head of forestry in Belgium, is a great believer in this tree, which will go far to help meet the serious problems of afforestation.

The Belgian ministry of waters and forests once boasted of several fine small plantations of Douglas fir in the

Ardennes mountains bordering on the old Duchy of Luxembourg where most of the Belgian forests were formerly located, and this is the area which will be replanted with patches of American Douglas fir mixed with European pine and spruce.

Intermingling of kinds and planting in small groups common to both France and Belgium is intended as an assurance against serious loss from insect or other pests which might be particularly like to attack a foreign species. Also it must be recognized that even if a good average crop of seedlings from the twenty-five million seeds presented by the association to each of our former allies were to be planted in a single block, the resulting forest would not be likely to cover in all more than five or six thousand acres, while France, for example, is confronted with the necessity of re-afforesting not less

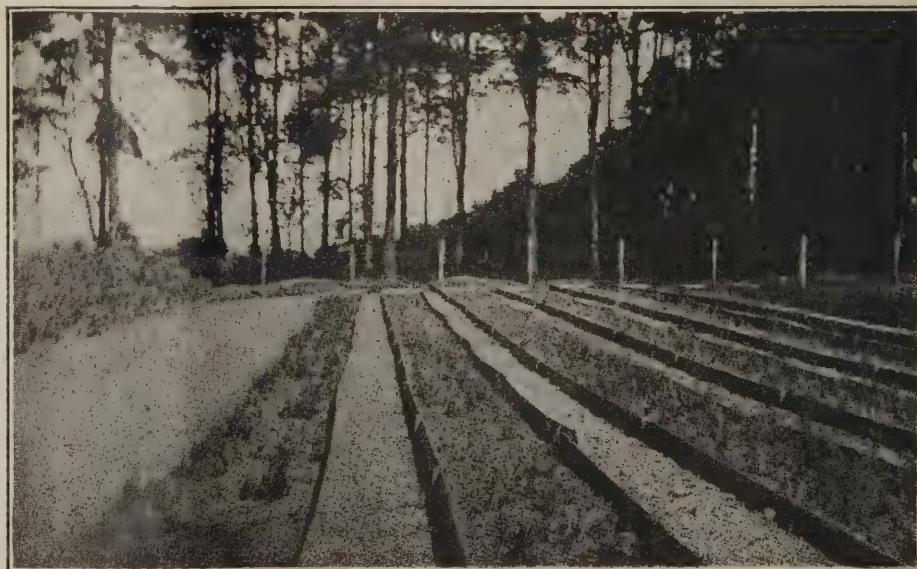
than two million acres.

Across the channel the use of our seeds is of more than ordinary interest because of its connection with Great Britain's new forest policy. Here again the favorite American species is the Douglas fir, although, Sitka spruce (the spruce of Alaska and our northern Pacific Coast) is much desired. As a moisture loving tree it would seem to be especially suited to the British climate.

About a hundred pounds of American seeds were allocated by the British forestry commission to the interesting work of afforestation along the route of the Caledonian canal of Scotland. From the point of view of sentiment few better places could have been found than this, since the canal was the route by which a large number of American submarine chasers were mobilized at will either in the Irish sea or the North Sea. Almost within sight of one of these future American tree plantations lie to-day row upon row of chasers, now the property of the British Government and awaiting sale or demolition.

Douglas fir is being planted in almost every section of the British Isles, but by far the larger portion of the seeds which came from the American Forestry Association were dispatched by the commission to Ireland. These were planted in nurseries in County Tyrone about eighteen months ago and have shown a surprisingly rapid and healthy growth. It is in fact one of the very best nursery showings that may be seen anywhere, and the local foresters may well be proud thereof.

This disposition of the seeds was made quite without any suggestions from the American Forestry Association, and in view of the unending Irish problems can only hope that here, too, their dedication as seeds of good will



Growing American larch in England's historic Windsor Forest

will bear fruit in helping to establish the desire for broad-minded coöperation and understanding.

In presenting the second shipment of seeds, Charles Lathrop Pack, president of the American Forestry Association, pointed out the importance of a national forest policy to this country, saying:

"I give these seeds to France so she may grow one hundred million American trees. France needs these seeds to restore her forests and woodlands in the battle zones where they were cut down for war-time purposes or destroyed by conflict. The trees will be placed on her battlefields and will be perpetual memorials to the American soldiers who fought and bled there. They will be perpetual because France in her great wisdom has a forest policy which maintains steady production of lumber without decreasing her forest area. In this she sets the United States an example which we have not learned to follow but which we must follow and without delay.

"This forest policy of France made it possible for France and her Allies to win the great war. The United States must have a forest policy if she means to be safe from war defeat in the future. So these Douglas fir seeds grown in French soil will provide timber for France for all future generations and her forests of American trees will forever remain as a memorial to the friendship of the two great Republics whose soldiers have fought shoulder to shoulder on the home soils of each.

"Since the war Great Britain has been quick to take up the scientific rehabilitation of her forest resources. Being close to the scene of conflict, she cut until little remains of her famous wooded areas. War is a costly lesson but Great Britain is profiting by that

lesson by pushing the rebuilding of her forests as rapidly as possible under the direction of the British Forestry Commission.

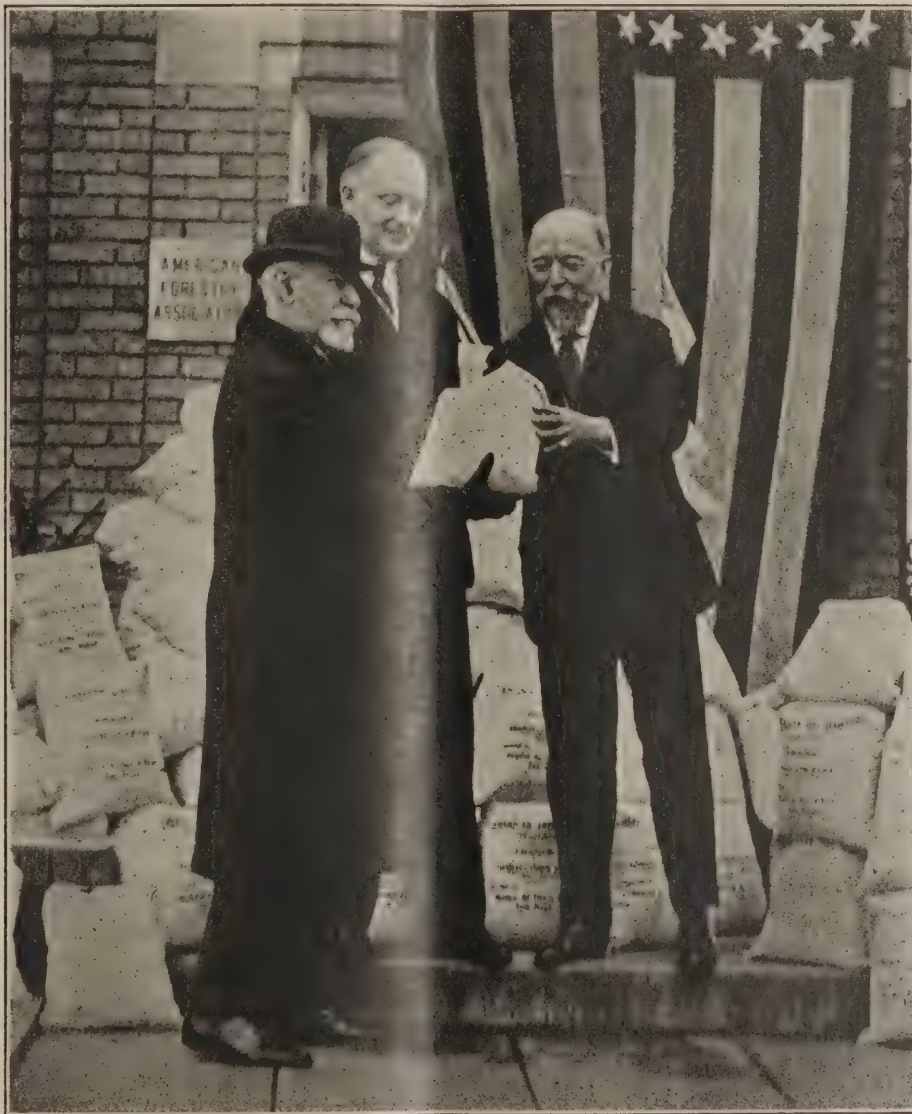
"Will America learn that lesson? It may turn out that, after all, these tree seeds will be in reality a gift to the American people, for seeing the great need after the great sacrifice your countries made, our own people will come to see that the millions of idle acres in their own country should be put to work growing trees as speedily as pos-

sible. If it should so turn out, your countries with these trees across the seas will have done a great service, the greatest service that can be done this country at this time."

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Ambassador Jusserand of France (left) and John Joyce Broderick, Counsellor of the British Embassy, receiving tree seeds from Charles Lathrop Pack, American Forestry Association

sible. If it should so turn out, your countries with these trees across the seas will have done a great service, the greatest service that can be done this country at this time."

In replying, M. Jusserand told what forests mean to his country and to any country, saying:

"Once more America is coming to the rescue. We did not believe that our gratitude could be increased, but it will be by what you are doing.

"Of few things were we prouder

than our forests, well-kept owing to the exertions of the pupils of our National School of Forestry at Nancy. The immense importance for a people that every citizen be a useful citizen and every parcel of the national territory be of use, is now better understood. The existence of coal and oil does not depend on us; we can consume it, not make it. But the existence of forests depends on us, and what does that existence mean? It means well-regulated waters which will insure the fertility of plains and valleys, it means renewable stores of heat and force, renewable timber for our houses, and a thousand other purposes. I say nothing of what it supplies for mere enjoyment; shade, beauty, quiet, the song of birds. The forest is the friend of man; man should be the friend of the forest; hence what we have long done on that line in France.

"Our forests suffered terribly from the war as some of you may have seen; where for centuries trees waved their green foliage nothing is left now but barren ground. As we must reconstruct our houses, so we are now trying to reconstruct our forests. And there your generous help comes in, most efficacious and welcome."

There has never been an event in the history of the world that has brought to the front the value of national resources as did the

World War. So England has begun in the last two years what France began two hundred years, yes, three hundred years ago. Germany began about the same time. A forest policy became such a part of the daily life of the nations of Continental Europe they have almost forgotten when such a policy was begun.

The wonder and beauty of French forests so impressed the American soldier, the Veterans of Foreign Wars has begun a nation-wide movement in co-

operation with the American Forestry Association for memorial forests wherever that organization has a post. Here and there we find reforestation plans for small areas but nothing as yet on a national scale.

Does the lesson of France mean any-

thing to American business men? Does the fact that we have 81 million acres of idle land in the East and Middle West close to our factory doors fit for nothing but growing trees mean anything to the American business man? A look at his last freight bill for lum-

ber will give him an answer to that question. The putting of that idle land to work is the most important economic question facing American industry to-day. The whole future prosperity and safety of the nation is bound up in the working out of that problem.

Automobile Thefts On The Increase

AUTOMOBILE thefts seem to keep right along with automobile production, according to statistics of 28 "index" cities for which complete four-year figures have been kept by the National Automobile Dealers' Associations.

These 28 cities show that 37,554 motor vehicles were stolen in 1921 and 21,273 recovered. The number unrecovered was 40 per cent of the total, the highest noted in the four years, indicating that the thieves not only are keeping abreast of the production but forging ahead of the police departments and the legislative bodies in means devised to safeguard the owner.

A summary of the four-year figures for the 28 cities follows:

	Stolen	Recovered	Unrecovered
1918	27,445	21,673	21%
1919	33,508	24,740	26%
1920	30,046	21,273	29%
1921	37,554	26,517	40%

New York again heads the list with total number stolen, 6,808. Chicago is a close second with 6,799. Chicago recoveries, 4,438, however, were greatly in excess of the recoveries in New York, 3,451. Twenty-one cities showed a greater number stolen in 1921 than in 1920. Cleveland, Portland, Oregon, Seattle, Salt Lake, Columbus, Ohio, York, and Richmond, showed fewer thefts in 1921 than in 1920.

"The greatest handicap under which the police are laboring in the recovery of stolen vehicles," according to C. A. Vane, general manager of the association, "is lax enforcement of laws to punish motor vehicle thieves. Courts are unduly lenient with this class of offenders. Charges are continued against such law-breakers until the patience of the witnesses is exhausted, finally resulting in dismissals and nolle prosequis."

A tendency was also noted during the 1921 depression, for owners of insured vehicles to conspire for the disappearance of the vehicles in order to collect the insurance. Numerous cities over the country reported the recovery of motor cars from quarries, pits and rivers, that had been reported stolen and which the police declare were clearly disposed of, with the con-

nivance of the owner.

The detailed record for the 28 cities follows:

AUTOMOBILES

	Stolen		Recovered	
	1920	1921	1920	1921
New York	5,179	6,808	2,717	3,451
Chicago	5,974	6,799	4,340	4,438
Detroit	3,300	3,732	2,563	2,410
Cleveland	2,649	2,304	1,765	1,532
Los Angeles	1,654	2,333	1,152	1,725
Kansas City	801	1,577	341	1,153
Portland, Ore.	465	338	418	303
Denver	858	1,862	651	1,711
San Francisco	1,186	1,652	1,156	1,608
St. Louis	788	1,560	641	1,247
Seattle	1,008	861	900	710
Indianapolis	1,152	1,238	833	979

Boston	480	490	297	216
Salt Lake City	592	516	555	482
Oakland, Cal.	564	729	549	680
Omaha, Neb.	634	927	507	855
Columbus, O.	513	408	278	355
Cincinnati, O.	525	741	273	445
Oklahoma City	205	493	133	396
Albany, N. Y.	87	234	70	177
Buffalo, N. Y.	743	1,152	507	928
Newport, R. I.	12	14	12	14
York, Pa.	8	2	8	2
Grand Rapids	262	267	250	207
Richmond, Va.	148	130	93	100
Dayton, O.	198	227	217	243
Lowell, Mass.	18	36	7	31
Evansville, Ind.	43	124	40	119

Totals 30,046 37,554 21,273 26,517

Motor Travelers' Service

A PROGRAM of free information to the traveling motorist in every American city and community large enough to boast a name is being planned for the Associated Advertising Clubs of the World in Minneapolis.

Perry S. Williams, vice-president of the community advertising department of the organization and manager of the Minneapolis *Journal* travel and resort bureau, is developing the plans, which include the establishment of information stations in every State having, wherever possible, no greater distance than twenty-five to fifty miles between stations.

"It is possible to place more than one-third of the population of the United States in privately owned automobiles at one time to-day," Mr. Williams declared. "At least forty million of people, therefore, can tour wherever and whenever their fancy strikes them."

"The railroads have built up an extensive system across the nation for encouraging passenger train travel and for giving information concerning this mode of touring. Great as the motor field is at the present time, its future possibilities are stupendous with automobiles being purchased with the rapidity they now are and will continue to be."

Mr. Williams explained that not every section of the country can be a tourist terminal, but the resort bureau

manager pointed out that every community can place itself on the most desired highway to and from some resort or vacation center through the establishment of a station to form the nation-wide chain of service for the motorists.

"Just as the railroads in an earlier day took their routes by way of communities which had proved good trading points or by dint of the efforts of the first citizens had built themselves up as important centers, so the main arteries of motor travel are being determined to-day," added Mr. Williams. "The man who travels in his own machine is following the routes over which it is easiest for him to find his way."

Communities are becoming known for their services and treatment, or lack of it, he said. The proposed nation-wide service, he continued, would have no place for the community "which is out to gouge and otherwise mistreat the transient automobilist."

In Minnesota the information chain built up already includes more than 500 stations, Mr. Williams announced. This means aid for the tourist on an average of every 14 miles of the 7,000 miles of the State trunk highway system, he said. In addition each 5 miles of this highway system is patrolled by a State agent, who keeps constant watch of traveling conditions and who stands ready to serve the tourist free, according to Mr. Williams.

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with 10 years' Latin-American mercantile and social experience seeks connection with manufacturing or mercantile house for purpose of either permanent representation or investigation trip in those countries. Also ready to discuss very favorable and economic proposition for the representation of group of non-competitive manufacturers, who may want to show their products at the Brazilian International Exposition at Rio Janeiro this winter. Speaks Spanish, French and German. Best of references, bank and others.

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REPUTATION
IS AN ASSET

Informative publicity increases Business, expands Trade, and builds a National Reputation for your product and your factory.

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We Specialize on Trade and Industrial Problems.



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COTTON CLOTH EXPORTS GROW

The quantity of cotton cloths exported from the United States in the fiscal year just ended showed a material increase over the preceding year and a big gain when compared with the pre-war average. The value, of course, showed a decline; the average export price per yard in the fiscal year 1922 was but about one-half as much as that of the immediately preceding year. The quantity exported in the year ending June 30, 1922, says the *Trade Record* of The National City Bank of New York, was 613 million yards against 556 millions in the immediately preceding year, but the 1922 value was only \$77,000,000 against \$141,000,000 in the year preceding. The quantity exported increased 10 per cent while the value declined 45 per cent. The average export price of the cloths sent out of the country in the fiscal year 1922, and 12.5c. per yard against 25.4c. in the fiscal year 1921.

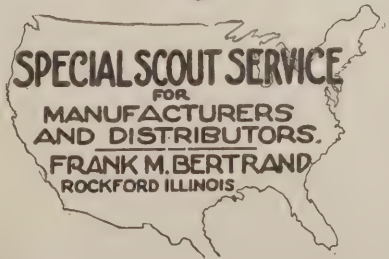
This increase in the quantity exported in 1922 occurs, says the *Trade Record*, especially in the Orient. China alone took over 30 million yards against 12 millions in the preceding yards against 43 millions a year earlier. To Asia and Oceania as a whole the exports of the fiscal year 1922 were 162 million yards against 96 millions in the preceding year. To Europe, the great cotton goods manufacturer outside of the United States, the total in the year just ended was 40 million yards against 20 million in the preceding year, and to South America 115 million yards against 124 millions in the fiscal year 1921. The one grand division which showed a marked decline is North America, to which the exports of the year were but 239 million yards against 279 millions in the preceding year and practically all of this fall-off occurs in the shipments to Cuba to which the exports in the fiscal year 1922 were but 30 million yards against approximately 90 millions in the year preceding. These figures of distribution are exclusive of about 50 million yards for which destination is not yet shown in the official reports of 1921 and 1922.

This persistent increase in the exportation of cotton goods despite the fall of one-half in price calls attention, says the *Trade Record*, to the steady gains which our cotton manufacturers have made in the distribution of their products to other parts of the world. The exports of cotton cloths averaged a little more than 400 million yards per annum in the decade ending 1910, and in the year immediately preceding the war were 415 million yards. Our exports showed a rapid increase, averaging about 700 million yards per year in the four years ending with 1920.

What you want
WHEN you want it
WHERE you want it from
Information of a determining character
ACCURATE
TRUTHFUL
VITAL
A determining factor in increasing sales through the medium of a more intimate knowledge of your sales territory.



SPECIAL SCOUT SERVICE
FOR
MANUFACTURERS
AND DISTRIBUTORS.
FRANK M. BERTRAND
ROCKFORD ILLINOIS



Yankee Gum Wins Europe's Favor

Use of strictly American confection taught French and British by our soldiers in World War; foreign prejudice against it has been overcome and products to value of \$2,612,540 were exported in 1920

Written especially for AMERICAN INDUSTRIES

By N. B. KASTL

THERE is probably no industry which is looked upon as more typically American than the manufacture of chewing gum. Originating in the Yankee curiosity of its inventor and developed with great ingenuity, it has become one of the most popular and widely used confections in the United States. In the last few years also it has received a long-delayed approval abroad. Long after chewing gum was accepted unquestioningly by the American public, foreigners looked upon it with scorn and derision and treated it as an American habit to be strenuously avoided.

Now, however, chewing gum has become an international product, sold in every country in the world. In the year 1920, in addition to a domestic consumption of over \$100,000,000 worth, chewing gum products to the value of \$2,612,540 were shipped abroad. It is a matter of more than passing interest also that the largest foreign sales are in the countries in which chewing gum was introduced with the most difficulty. For many years England was a stronghold of conservatism against the chewing gum habit. She is now America's best customer.

Chewing gum is a simple product consisting of the hardened sap of the sapota tree combined with a flavoring extract to make it more palatable. It first came into being as an article of commerce about fifty years ago. Its inventor became interested in the sap of the sapota tree and experimented with it, hoping to be able to vulcanize it to use as a rubber substitute, in which he was unsuccessful. In the course of his experimentations, however, he became impressed with the resemblance of the sap to spruce and cherry gum which at that time were the only chewing gums known. He boiled the sap, kneaded it as if it had been dough, let it harden and then cut it in pieces. He tried it out on some school children in a nearby school and found that it met with an enthusiastic reception. From this groping and experimenting was evolved the great chewing gum industry of the present.

The chewing gum company founded by the original inventor to-day occu-

pies in one of its factories, a plant covering a full city block and embracing 555,000 square feet of floor space. The capacity of this plant in full operation is 250,000 boxes a year. This factory, although the largest, represents only one of the several huge plants in the United States, all of which are working at capacity to satisfy the craving for chewing gum which exists among so large a proportion of the American public.

The sapota tree, or as it is called in Mexico, zapote, is very similar to the rubber tree. It has a small bole which rises about thirty feet in the air before branching. The best trees are found in Mexico and the Central American states, especially Guatemala. The trees can be successfully tapped only about once in four years and tapping is done during the rainy season.

They go through the chicle forests and cut diagonal gashes in the boles of the tree from the ground up to the branching point. The sap oozes out through these gashes and runs down into canvas bags which are tied to the foot of the trees. The sap is allowed to run for several days and then the bags are collected and taken into the camps. There the sap is boiled in huge copper kettles and then poured off into cubical moulds ranging in size from 15 inches to two feet square. The hardened blocks of gum, usually weighing from 35 to 40 pounds, of which fully 35 per cent is moisture, are then ready for shipment. They are taken down to the seaports and shipped to the United States.

Chicle is a pure vegetable substance but in its crude state is not fit for human consumption. After it reaches the factory it is first pounded into a pulverized state in which it looks very much like corn meal. It is then put into steam filtering presses and filtered under pressure through thirteen filtering screens. It comes out of the filtering process in liquid form, after which it is cooked and congealed and is then ready to be made into chewing gum. The gum, in batches of as much as 200 pounds, is now put into steam jacketed vessels and sugar and flavoring extracts are added. It is cooked until it reaches the semi-liquid state, after

which it goes into a machine which consists of a moving belt on rollers. The gum is run on to this belt in a strip about fifteen inches wide and of the thickness of a completed piece of gum. As the belt moves, the gum passes under scoring knives which cut it into strips the width of the finished piece of gum. These strips are then piled on pine trays and taken into a drying room where they are kept usually over night until they have hardened. The strips of gum then go into the breaking room where they are cut into sticks ready for wrapping.

The wrapping machines are remarkable examples of automatic machinery. For the first wrapping two types of outside wrapper are fed in from one side of the machine and the sticks of gum on the other side. The machine automatically wraps each piece of gum in oiled paper and the oil wrapped pieces are then automatically enclosed in either one of the other type of outside wrapper. The sticks of gum are then dropped into containers from which they go to be packed in boxes for shipment. The capacity of these machines varies somewhat according to the operator, but the average output is about 125 boxes per hour or 1,000 boxes per day to each machine.

A popular confection is a candy-coated chewing gum. In making this the gum is cut into small square pieces which are put into huge copper kettles, together with a sugar syrup. The kettles are tilted back and forth until the pieces of gum become coated with the syrup. After the pieces of gum are thoroughly sugar coated they are put into dry kettles where they are polished by friction.

The machines which pack these candy-coated tablets in boxes are remarkable devices. Empty packages are fed into the machine, one end is closed by a steel finger and then twelve of the tablets are put into the package from the other end, which in turn is closed, and the filled packages drop into containers.

It was the recent World War which gave it its popularity abroad. It was

(Continued on page 34.)

America's Greatest Waste

is the prevalent use of unsubstantial, short-lived materials—in industry and the home alike.



Waste's most able aid is Rust—

Rust ruins more than \$600,000,000 worth of the metal work on American homes annually. Think of it! *Six times as much property as is consumed by fire.*

The rust-loss in industrial buildings undoubtedly will be found to be as large or larger than the rust-loss in homes.

Nor is that all. Waste through the use of rusting materials in machinery and other equipment is quite as great as that in the buildings which house it. Then, too, there is the serious loss caused by manufactured articles themselves being spoiled by contact with rusted machine parts.

The *indirect* losses due to rust are found in the money frittered away in expensive but futile attempts to thwart rust—money spent for repairing, coating, plating, dipping, galvanizing, and other costly makeshifts.

The total cost of rust may well be several billion dollars a year.

Copper and Brass are entirely unaffected by rust. For every trouble-ridden year in the short life of ordinary metals, Copper or Brass gives a decade of repair-proof, trouble-free service.

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DEPARTMENT OF COLONIZATION AND
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WINDSOR STREET STATION

MONTREAL

YANKEE GUM WINS IN EUROPE

(Continued from page 32.)

found to be valuable in soothing the nerves and in aiding digestion. It was also found of great service in fighting areas where the water supply was either limited or unfit for use. At the time of the big German retreat in the spring of 1918 when the Allied armies advanced to occupy the regions devastated by the Germans, an emergency call was sent to the Red Cross in Paris, asking for all its available supply of chewing gum. This was utilized to quench the thirst of the soldiers who were forbidden to use the local water supply. In the front line trenches where the soothing cigarette was forbidden to the soldiers, chewing gum was utilized as a substitute. In the army hospitals chewing gum was found of service in post-operative cases not only to remove the after-ether taste, but also to quench thirst at times when water was forbidden to the patients.

It was the World War also which expanded the export trade to its present proportions. The total exports of chewing gum from the United States to all countries abroad was, for the

year 1914, only \$178,630. In 1920 it had increased to \$2,612,540.

England and France are the two countries in which, more than any others, the spread of the chewing gum habit has been more rapid as a result of the war. France is to-day one of the best European markets. During the war American soldiers distributed chewing gum among the French children who greeted it enthusiastically because they had been so long deprived of candy and other sweet things. The American and Canadian soldiers used chewing gum constantly and spread the habit not only among the French people but among the other Allied troops in France.

It is stated that the returned British soldier has done more to popularize chewing gum in England than any agency. Before the war the British market was an exceedingly slow one but it has received a great stimulus in the last two years. In 1914, Great Britain imported from the United States only \$46,538 worth of gum, while in 1920 she imported \$771,144. France also has increased her imports in the last six years from the almost negligible figure of \$1,163 to \$395,299.

Big Saving to Travelers

THE Interchangeable Mileage Bill recently passed by Congress, will effect substantial savings in railroad travel for more than 600,000 people. Not only will traveling salesmen benefit by this measure, but so will buyers in their trips to market, theatrical organizations, Government officials and others who travel to any extent.

"The bill directs the Interstate Commerce Commission to require the issuance of an Interchangeable Mileage Book, good on all roads," said A. M. Loeb, President of the National Council, commenting on the successful conclusion of the Council's fight for the bill.

"Heretofore the Interstate Commerce Commission indicated, when appeals were made for a moderation of rates, that it was not vested with the power, constitutionally, to authorize a general lowering of rates. Now the constitutional authority has been given, and it is expected and hoped that immediately following the signing of the bill by President Harding, the Interstate Commerce Commission will act without delay. One of the outstanding features of the new book, when issued, is that the traveler will not be required to carry a number of different books, inasmuch as the one form of book will be universally used and accepted.

"According to the amended bill passed by the House, and since ratified by the United States Senate, it is optional with the Interstate Commerce Commission to order the issuance of either mileage or scrip books; the latter, if adopted, will be sold containing a number of coupons that will either be exchangeable for transportation at the railroad ticket office or acceptable for transportation on all roads. It is expected that the books will be offered for sale at a substantial discount. Possibly a book containing \$100.00 in scrip will be sold for \$75.00.

"By this process, whether the owner travels over one of the leading transcontinental lines or upon a short line, where there are tunnels or mountainous grades, or other railroad problems, where the rate per mile to-day is more than 3.6 cents, the actual percentage of saving will be the same."

Further important legislative and organization measures will be formulated at a Convention to be held by the National Council at Cincinnati on October 9, 10 and 11.

Hardwood lumber dealers report that concerns which had failed to place orders for a year are now replenishing their stocks. They expect both a big demand this Fall and a raise in price.

Prices of Steel

Continue to Rise

Steel prices continue to show an advancing tendency. A large independent is quoting blue annealed sheets at \$2.75, black at \$3.50 and galvanized at \$4.50. Rerolling billets are offered at \$37 to \$40 and the forging quality is \$7 higher. Bars now are generally quoted at two cents but there are unofficial predictions of an advance to 2.10 cents and even 2.25 cents. Pig iron is offered on a \$31 basis.

Few mills will accept business for prompt delivery and many of them are refusing all orders. It is a common prediction that at least a month will elapse before furnaces and mills again will be able to produce iron and steel.

Declining prices for soft coal are not expected to cause lower steel prices. Most mill representatives predict further advances, resulting from the increased wages recently announced by some of the most important producers.

Demand continues strong. A seasonal slump in structural has developed. Ferro-manganese is quoted nominally at \$67.50 for shipment, but as none is available before October and as the tariff is expected to be in force then, buyers are few. Spot stocks recently have sold for \$85. Spiegeleisen is scarce and in good demand at \$37 for 18 to 22 per cent goods. A sizeable quantity of second-quality tungsten was sold at about forty cents, sellers' works.

The *Iron Age* reports: "What change the week's advances in fuel and labor will make in the Steel Corporation's price policy is of first consequence to other makers and to all buyers of steel. Advances are expected. Scarcity of pig iron is more pronounced and prices soar. In the East only two blast furnaces have any product for sale."

The *Iron Trade Review* says: "Orders for nearly 2,000 cars indicate the activity of railroads in the market. Outstanding awards involve 1,000 gondolas for Lehigh Valley, 500 hoppers for St. Louis and San Francisco and 300 gondolas for Monon Railroad. Track equipment also is in some demand.

"It is growing more apparent that even under the best conditions operations cannot be restored to a satisfactory rate before the end of the year. Announcement that H. C. Frick Coal Company plans to post a scale of wages under which it will resume operation may have important bearing on activity in Connellsville field."



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"Across the Atlantic on a Giant Liner"

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"Scientific Protection"

Showing the history and development of the safeguarding of valuables, for the Mosler Safe Company.

"Good Teeth—Good Health"

A lesson in dental hygiene, made for Colgate & Company.

"A Grand Spread"

The story of Spremit, nut margarine, to help solve the sales problems of E. A. Stevenson & Company.

"The Making of Soap"

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MEMBER



Bits of News About Men in Industry

Calvin W. Rice, secretary of the American Society of Mechanical Engineers, who was recently appointed official delegate to the Engineering Congress to be held in connection with the International Exposition at Rio de Janeiro, left New York, August 23, on the steamship *Pan-America*, which is also conveying Secretary of State Charles E. Hughes and his party to the Brazilian capital.

Mr. Rice goes as the emissary of organized engineering in the United States, and for the purpose of representation was elected an honorary vice-president of the society. Mr. Rice's journey was called by officials of the Society the opening of a new chapter in international relations among engineers. For many years, it was stated, this Society has been active in laying the groundwork of a close union of thought and effort among the engineers of the world as a part of an elaborate plan of public service which is being gradually linked to the technical activity of the Society, and which, through a national network of local sections, professional divisions and administrative committees, is enlisting the coöperation of nearly 200,000 members in every State.

In addition to the American Society of Mechanical Engineers, Mr. Rice will represent at the Congress the Federated American Engineering Societies, the American Institute of Electrical Engineers, the Engineering Foundation, the John Fritz Medal Board, the Engineering Division of the National Research Council, the Engineers' Club of New York City and other organizations.

F. R. Johnson, former manager of Standard Sanitary Manufacturing Company has left for Buenos Aires to open an office for his company in that city, from which office he will conduct their business in the River Plate District. The management of the New York export office is now in charge of E. A. Albertis.

Curtis A. Hollingsworth, of Cumberland, Maryland, has been appointed Assistant Professor of Life Insurance Salesmanship for the coming year at Carnegie Institute of Technology, in Pittsburgh. Mr. Hollingsworth's ap-

pointment fills the vacancy caused by the promotion of Professor Charles J. Rockwell to the Directorship of the Insurance School.

The Research Committee of the Petroleum Section of the American Chemical Society appointed to make a special study of the motor fuel problem in America and to conduct researches as to the most efficient uses of the supply now available, the best means of supplementing the supply and other related problems, will make its report at the Pittsburgh meeting of the Society, September 4 to 9. This is announced by Dr. W. A. Gruse, secretary of the Petroleum Section, together with the complete program of the section.

W. F. Faragher, of Mellon Institute, Pittsburgh, will make the report of the Committee on Research. Dr. Van. H. Manning, director of Research of the American Petroleum Institute will discuss the work of the committee. The report will be the chief feature of the Section's meeting although a number of important papers are on the program. There will be a symposium on "Lubrication from the Chemists' Viewpoint."

At the Annual Board Meeting in May, Pierre Jay, Chairman of the Board of Directors of the Federal Reserve Bank of New York, made a concise and comprehensive presentation of the character of the work of the Federal Reserve System and of the value of that System to American business life. Mr. Jay referred in particular to a printed pamphlet issued by the Federal Reserve System entitled "Better Banking under the Federal Reserve System," and urged the general distribution of this pamphlet among business men of the country. Copies of the pamphlet are obtainable through any of the Federal Reserve banks of the country.

The Cuba Locomotive and Machine Works has been formed by the Baldwin Locomotive Works to handle repair work in Cuba. The annual meeting of the Cuba company, articles of incorporation for which have been filed in this country, will be held September 7.

Formation of the company has been under consideration for some time. It is planned to erect shops on the island. Cuba has long been a customer of Baldwin's, especially for plantation engines.

Farmers' coöperative associations were defended as an attempted solution of the present desperate plight of farm-

ers by Silas L. Strivings, president of the New York State Federation of Farm Bureaus, in addressing the New York State Hay and Grain Dealers' Association. He said dealers must expect to suffer as middlemen with the farmers in an attempt to solve their own problems. He assailed the rail and mine strikes as blows at the Nation.

The hay dealers voted to adopt the Federal standards of hay grading. Jay B. Bradley, of Interlaken, was elected president; E. A. Dillenbeck, of New York, vice-president, and O. D. Hewitt, of Locke and Warren H. Dean, of Auburn, directors. C. K. Jones, of Weedsport, is to be re-elected secretary and treasurer.

The American Window Glass Company, of Kane, Pa., employing 500, has announced every employe will receive a raise in wages of 15 to 25 per cent.

The Harbison-Walker Refractories Company, with plants at Flemington, Mill Hall and Farrandville, Pa., increased wages from six to ten cents an hour, effective September 1.

Appointment of Arthur J. Grey, of New York, as "commodity" Trade Commissioner, attached to the Berlin office of the Commerce Department, has been announced by Secretary Hoover.

Increased business has made it necessary for the Monitor Bi-Loop Company, Lancaster, Pa., to build a 25,000 square foot addition to the plant. The entire plant will cover about five acres.

DENIES FOREIGN EXTORTION

(Continued from page 14.)

the country I heard the cry, in offices, banks and hotels, 'Russia is our only salvation.' The Foreign Office officials in Berlin are afraid that this move will take shape when the currency becomes worthless.

"One thing I can say for certain, and that is, Kaiserism is dead in Germany. The people speak of him as they would of some ancient ruler. Even a veteran attendant in the Palace at Potsdam spoke of the ex-Emperor as a mighty ruler who had passed away. The people are working and cheerful with all the dark clouds hanging over them. They realize that it is no use moaning about what must happen in the coming dark and cold winter months. When they look to Soviet Russia as their only hope one can imagine the state of mind of these unfortunate people."

Mr. Bell said that Salzburg and other places he visited in the Tyrol were most enjoyable and the cost of living very small.

Business
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the
Far-Away
Lands

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Business
Opportunities
in
Other
Countries

Riga Builds Hopes On Future

This port, the artisan and middle-man for Russia, waits in uneasy idleness for the restoration that it is confident is on the way and will again give life to a very ambitious people

(Special correspondence from Riga)

By CECIL I. DORRIAN

(By Special Permission of the of the Newark Evening News)

RIGA'S towers form a skyline that when used on shipping posters needs no label to make it recognizable again, once seen. They are as queer as the high-pointed cap of the old woman who swept cobwebs from the sky.

Most of them are black. A few are gold. Some appear to have no task but to lance the rolling Baltic clouds with their piercing, slender height, dark, solid and mysterious. Others, bulb piled on bulb, display airy belfries, immeasurably high, from which an occasional faint tinkle recalls the notion that there is such a thing as time, but with an air of disdain for recording the actual hour.

This once bustling port has little need now for time clocks or exactitude. It is in a state of uneasy idleness. It has lost its job. Its job was to serve Russia, to pass Russia's produce out to the west, to receive Russia's return

purchases and deliver them to her. Its 100,000 skilled workmen used also to manufacture goods for Russia in great, modern factories.

Riga slaved for Russia. Her people used their western wits and energy to cater to the needs and Oriental pleasures of the people farther east to whom they were subject.

They did not call this making a living out of Russia but slaving for Russia, because they are a different people and wanted their freedom. In these days they have their freedom and want their job back on the honorable basis that would now obtain. But it is gone.

Beyond their frontier to the east there is nothing but silence and mystery. Only one uncanny index signals the presence of life over the white horizon in the immense depths of Russia and that is the flotillas of logs drifting down on the strong current of the Dwina into the town of Riga. These

are here taken from the stream, sawn and piled on the ships going west.

There is a convention between Latvia and Soviet Russia to cover this primitive trade. Latvia sells the wood and credits Russia for the logs. But there is no contact between the dreaming moujik far in the interior of Russia who fells the trees and the alert Latvian who turns them under his powerful machines in Riga. Between the two there is a break almost as great as between this planet and Mars.

Except for this not very profitable log traffic there is almost no business between Russia and Latvia, certainly nothing in the way of serious or hopeful business. Nor are people here very sanguine of the immediate future. It is not as it is in parts of the west of Europe where a certain nervous expectancy regarding Russia surges up every few weeks and an excited whisper runs about as who should say,

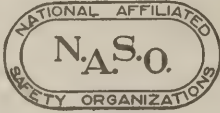
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Shoes—To protect workmen's feet against molten metal.

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Ladder Feet—To prevent ladders from slipping.

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Metal Danger Signs—Portable, for use in shop, yard or street.

Linen Danger Signs—Various warnings of danger, for attaching to sign boards or partitions.

Rules for Cranemen—For guidance of crane operators and others.

First Aid Jars—Emergency outfit especially developed for industrial use.

Stretchers—Sanitary metal stretchers, which can also be used as cots.

Shaft Protector—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

"Here it comes! Russian trade, at last!" There are elements of the west who are acting in this Russian expectancy like children waiting for a circus parade, thinking every few minutes they hear the music and thrilling at the thought that the gorgeous wagons and panoplied horses will soon bring on the enchantments of a more desirable world.

In Riga they believe in no Russian miracles. They do not believe that one fine day, not far distant, a gong will sound and the Russian frontier will open, to release gold and precious stones, jeweled embroideries, oil and camphor, caviar and furs.

It is dull for the people of Latvia because they have no other hope of prosperity. So far as they can see Russia is the only market for their manufactures, and the handling of Russian transit trade their one bid for international importance. Germany lies between them and western markets, also between them and Balkan markets. They hardly hope ever to compete with Germany. The other Baltic states want to, and can, manufacture for themselves. No, Latvia must look eastward.

And how long must she wait? She believes she will have to wait for the slow evolution of Russia away from the control of the Communist doctrinaires. The driving power of this evolution, they think, must come from the great masses of the peasants, who form the vast bulk of the Russian population. But these are ignorant and unorganized. A handful of determined people working together and having the state coffers in their possession can rule them. They have always been ruled by a handful. The Czar and his group of aristocrats were also only a handful. They have been accustomed to being ruled despotically. That is the only way a horde can be ruled by a handful. It is the way Western Europe was ruled hundreds of years ago and the way Asia is ruled to-day.

But the Russian peasant has taken his first great step forward. He has got his land. He is no communist. He is going to hold on to his land, and in order to do that he is wakening to the need of more knowledge and greater activity on his own part. This is the seed of the future. From this, opposition to the present régime will organize and become a force and communism will give way to whatever form of government the property-owning peasant wants.

This is what Latvian officials and business men who are watching Russia think is going to happen. They think it will take time, but that in a few years from now the first faint begin-

nings will show themselves. And they think that each, even small, manifestation of this growing peasant power will be registered in trade. They believe the present Russian dictators will recede before the peasant drive. At first they will give up their principles one by one, and later will give up their posts. Trade, they expect, will begin in a very small way in a year or two, and will increase slowly thereafter year by year, until the flood gates are really opened.

Latvia is trying to get ready for this luminous day in the future—perhaps ten, twenty years from now—when ships will come piling in from the west laden with goods for Russia and when long trains, heavy with the produce of Russian forests and wells and mines, come over her frontiers from the east.

It is difficult to get ready for this day, however, in a timely and efficient manner because the Latvian storehouse and cupboard were laid bare by the war. Latvia wants to build up her ports, Riga, Libau and Windau, which, among the three, are now equipped to load and unload 1,100 car loads daily. She wants to lay new railways, with enough broad gage lines to all the ports to handle the Russian tonnage. She wants to build railway carriages and freight cars and equip her factories. But all these enterprises

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require materials, machinery, etc. Latvia has not the funds to pay cash for what she needs to buy before she can begin work. She can not get credit because her earning power for repayment of credits can not develop until the Russian market opens. No one knows when that will be and foreign investors are not loaning their money against the mirage of Russian recovery.

Latvia would start her own factories in order to keep her people employed and pile up stocks. But these fine big factory buildings are empty inside. The machinery was evacuated by the Russians when they retreated before the Germans, who entered Riga in 1917. None of this machinery has ever been returned. Now, say the Latvians, they could get new machinery from Germany cheaper than it would cost them to haul the originals back from Russia, but they can not pay cash and can not get credit. Hence the tall chimneys are smokeless and the people idle.

Factory machinery was not the only thing lost to the population here by the activities of armies during the war. Everything of any value was removed: the state treasures, the personal wealth and possessions of the people, the wealth and treasures of the churches, most of the church bells, the

city's statuary and bronzes, the exhibits in the museums, works of Latvian painters—everything they had that represented their wealth and culture. Most of this was taken to Moscow and Nijni Novgorod. What was left was taken by the Germans.

Nor do these seizures represent all the war losses of this little state. The Latvian population numbered 2,552,000 at the opening of the war. The entire nation now numbers only 1,813,000. The population of the city of Riga, which was 600,000 in 1914, is now less than 300,000. The industrial population, which was 100,000 in Riga alone before the war now numbers 2,495 for the whole of Latvia. Sixty per cent of all Latvian industry was destroyed. Ninety-five per cent of the large metal and chemical industries was destroyed.

Even this is not the worst. For Latvia is mainly an agricultural country. Fifty-five per cent of the rural districts of Latvia are still cut up by dugouts and covered with wire entanglements. Of the land again under cultivation the productivity is thirty per cent lower than it was before the war because of the lack of young labor on the farms.

No wonder that youth is scarce here. Not only were the Letts used as shock troops in the Russian armies and sent out in masses, munitionless, into the great fights at Tannenberg and the Masurian Lakes where they were swept away by the German machine guns, but even after the huge massacres which the war on the Russian front developed into had ceased and fighting between Germans and Russians had stopped there was still no peace for the Letts. For it will be recalled that Latvia was the scene of a desperate post-war struggle, as well.

It was here that Von der Goltz's Iron Division was stationed, under the somewhat disputed tolerance of the Allies, to stem the Bolsheviks, who were advancing toward the Baltic and Germany.

This was a time of tremendous upheaval, fire, bloodshed and confusion for the local population and when now one of us from the West hears the tales of this period from the native people of Riga together with their interpretation of what that period meant and foretold, we feel that we got very little authentic news from here at that time and but very sketchy ideas as to what seeds were possibly sown here during those days for future reaping.

For, according to these tales the Germans, Cossacks and Bolsheviks were rather intriguing together than fighting one another, while the main interest of the Germans continued to be what it had been during the war, colonizing the country with an incoming stream

of Germans, setting up a German government, putting in German officials and preparing to link up this region with the long sweep of lands stretching all the way to Odessa, and of course including Poland, all of which area the Germans intended, and according to the people here still intend to incorporate in Germany.

Meanwhile, during this period between the end of the war in 1918 and the summer of 1920, when the Germans and Russians were fighting—and maneuvering—all around them, and when the Allied fleets in the Baltic were shelling the Bolsheviks as they advanced toward the sea, the Letts, who, as their but little known history recalls, have been fighting periodically for their freedom since the twelfth century, decided that the time had come for them to have another try.

The little state, which, under the National Latvian Council, had declared its independence in November, 1918, and been recognized by the Entente, organized a small army in spite of the opposition of Von der Goltz and hurled it against the Reds as they crossed from Russia. The bulk of the Germans retreated before the Russians without fighting, and the Letts alone were unable to hold back the immense numbers of the Reds, though by now they were fitted out with English and

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French war material. Thus the Bolsheviks got into Riga.

After that all the Latvian people, men and women, who were between the ages of 16 and 60 joined the army and during the year 1919 to 1920 fought the Reds on one side of the Dwina and the Germans on the other, until, with the help of the Allied fleets they finally managed to clear Latvian soil of both enemies.

There were bloodshed and massacre in the streets of Riga, rifled houses and polluted churches, the people terrorized, the government representatives in hiding, the members of the National Council, which had retired to Libau, seized and imprisoned by a coup d'état of the German command, and everything in an inconceivably confused and bewildering state.

That was only two years ago. Now the country is at least peaceful and orderly, even if it can not claim to be especially prosperous. Its public services are functioning smoothly and everything is being done that can be done to get ready for the days certainly coming when the great flow of commerce begins.

There is something, however, in the

back of the peoples' mind which keeps them from looking forward to the future with any genuine feeling of assurance. It is the abiding picture of the German design as they saw it manifested here during the occupation from 1917 until the end of 1919. In the Russo-German treaty at Brest-Litowski it was agreed that Latvia should become a German province. The Germans made every preparation to put this agreement into effect. At the end of the war German representatives out here said freely that German plans for Eastern Europe were only postponed, and that in a few years at the latest the lands from the Baltic to the Black Sea were going to belong to Germany.

It is here popularly thought that Germany will use Russia toward this end, and it is believed, in spite of official denials to the contrary, that Germany has already begun the work of turning Russia into an arsenal and plans to use Russian man power for troop reserves. They are convinced Germany will never tolerate having the Polish barrier between herself and Russia. And they go so far as to say that in ten years we will have this

whole war chaos upon us again.

Thus the recognition of Latvia by the United States had a greater meaning for the people here than we probably guessed when we granted it. It represented a sort of shield between them and their sinister menace.

In musing over the value to be attached to these fears of the people of this region we who are inclined to ignore fears and discount threats in the safe United States must remember that Latvia is one of the chief listening posts for Russia and between Russia and Germany. She hears and sees many things officially, confidentially and popularly. Riga is full of Russian refugees, German traders, world operating financiers, diplomats and the like. The chief base for the American Relief of Russia, Riga, sends in and receives couriers from the interior several times a week.

Hence there is a certain feverish activity here which, although it does not spell business prosperity nor hold out any hope of it even, at least puts Riga on the main line between west and east and gives the minds of its people plenty of material to speculate upon during days of idleness.

New England And Export Trade

NEW ENGLAND is no stranger to foreign commerce. On the contrary, the Boston merchant and other business men of the New England states have demonstrated through the centuries, that they have appreciated the advantages of foreign trade and were able successfully to meet competition of European countries.

At the present time there are two factors operating to compel or encourage New England to give more serious attention to foreign markets than in the past.

One of these factors is the increasing development of manufacturing industries in other parts of the United States which compete with the specialties of the New England centers and, consequently, are making competition more keen for a share of many domestic markets which heretofore have been very largely controlled by New England products.

The second factor is the increasing freight rates which handicap the New England manufacturer in competition with the local producer in other parts of the country.

As a general rule everywhere, goods can be carried much more eco-

nomically by water than by land, with the result that New England products, so far as freight is concerned, may be landed in the remote parts of the world at less cost for carriage than in a number of states of the Union.

Again, when it comes to competition abroad with the products of other parts of the United States, the New England manufacturer has the advantage of closer proximity to the seaboard and, consequently, at less cost for carriage than those of his competitors inland.

These conditions, coupled with the slackened home demand of the past two years, have naturally induced New England to give intensified attention to the possibilities of foreign markets. To meet the needs of those manufacturers who have not had experience in filling the orders of foreign customers, the Boston Chamber of Commerce, through its committee on foreign trade, has published a handy little volume, entitled, "The New England Exporter." It has been prepared by Harry R. Tosdal, Ph.D., Professor of Marketing, Graduate School of Business Administration, Harvard University. It is a volume of 130 pages and condenses in these pages a great amount of information

which has appeared from time to time in more extended form in a number of pamphlets, books and articles in recent years, covering such matters as organizing for foreign trade, selling to foreign buyers, delivering the export order, export credits, financing and documentation.

As an appendix there is given with illustration of documents a description of "A Typical Export Order and How It is Handled," evidently taking in this matter as a model the little pamphlet, entitled, "An Export Order" which was issued some years ago by the Foreign Trade Department of the National Association of Manufacturers.

Another chapter, entitled "The History of an Export Order," also has apparently been modeled after the exhibit under that name which was originated by the Foreign Trade Department of the National Association of Manufacturers in 1915 at the International Trade Conference, held under the auspices of the Association in that year, and which exhibit was shown throughout the United States for several years at the request of local trade bodies. The price of "The New England Exporter" is \$1.00.

Palestine In Commerce

A RESIDENT correspondent of the National Association of Manufacturers writing from Jaffa, calls attention to the opportunity presenting itself in Palestine for increased sale of American products in the following words:

The bulk of the business of Palestine, Egypt and Syria was done with Germany and Austria before the war, as these two countries are now unable to supply the demand, and while the local trade has not yet got used to dealing with British firms, and at the same time quite a number of popular articles have recently found their way into these markets, therefore by energetic attempts a great number of articles could be introduced and very much business would result.

Since Great Britain has taken control of this country, many changes have taken place. In the first instance, while all the dealings were formerly done in francs, to-day it is in Egyptian pounds, which are a half shilling higher than pounds sterling, and the 100 piasters in the Egyptian pound has almost the purchasing value of the 100 cents in the dollar.

Previous to the war there was not one single motor car, while to-day there are more than 3,000 cars registered with the Palestine Government as civilian owned, besides the military and government cars. Among these there are a number of popular American makes.

Before the war typewriters were almost considered a novelty and a luxury and a rare article to be found, while to-day you find them everywhere—all makes and of all countries. Before the war the only things that used to be imported from America were certain agricultural implements.

The few already existing articles sell in the usual way as that of similar articles of other countries, as they are not advertised more than

others, for the local dealer has not as yet learned the importance nor the value of advertising, nor is he keen to invest in advertising, and the American manufacturer, although he spends millions of dollars for advertising in the United States, ceases to figure the importance of making an attempt to make his wares known to the purchasing public on the other side the moment they are put on board the ship, and the commission agent, who is the connecting link between the manufacturer or exporter and the dealer or importer, usually is best acquainted with the European sources and finds no more attraction or benefits nor facilities in trying to introduce articles of American origin. On the other hand he finds great con-

veniences and inducements to offer the trade European goods for the reasons that the European manufacturer offers the exclusive agency without any special conditions and the orders placed come with less delay owing to the more convenience in shipping.

We have in the United States thousands of very useful articles that Europe has not. We also have thousands of articles which are more practical and better made than those produced in Europe, and we could therefore easily get our due share of business "if" the American manufacturer would only realize the importance of investing freely in advertising and making his wares known to the purchasing public as he does at home.

Invoices for Australia

A NEW form of invoice and certificate has been adopted by the government of Australia to go into force from the first of January, 1923. However, the new form may also be used for goods arriving before that date. The above advices are sent to the National Association of Manufacturers by M. B. Synan, Official Representative of Australia in New York City, these advices having been cabled to him by the Department of Trade and Customs in Australia.

The new form is devised to provide against every possible chance of under-valuation of goods, parts of the reverse side of the invoice reading as follows:

1. That this invoice is in all respects correct and contains a true and full statement of the price actually paid or to be paid for the said goods, and the actual quantity thereof.
2. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to anyone. * * *
3. That the domestic values shown in the column headed "Current Domestic Values" are those at which the above mentioned firm or company would be prepared to supply to any purchaser for home consumption in the country of exportation and at the date of exportation identically similar goods in equal quantities, at (6) subject to per cent cash discount, and that such values include/exclude the cost of outside packages, if any,

in which the goods are sold in such country for domestic consumption.

A COMPLETE

PLANT

and

FACTORY

FOR SALE

Capable of making upwards of one million needles weekly and 500,000 fish hooks and fishing tackle, specially for the American Markets.

APPLY

J. WILLIS & SONS

Kendal Works

Redditch, England

(Established 1850)

For Sale

**SAND BLAST — Pangborn
Type 70/15. Type L A Rotary
Table Sand Blast.**

Good as new.

Address,

**THE COLLINS COMPANY
Collinsville, Conn.**

The Brazilian Exposition

By MANUEL GONZALEZ

Chief, Latin-American Division, National Association of Manufacturers

THE National Association of Manufacturers respectfully calls the attention of its members to the great importance for them in particular and for the United States in general, of showing the excellent goods they manufacture in the International Centennial Exposition which opens in Rio de Janeiro in September and continues to March, 1923.

Brazil is, next to the United States, the most populous of the American countries; it has at present 30,550,000 inhabitants and could easily support a population of two hundred millions; her foreign trade which has had for several years an average value of half a billion dollars should treble itself within the next ten years. We are at present her best customers, taking 41.38 per cent of her exports and selling 42 per cent of her imports. We dominate in that market all our competitors, even those which are her neighbors.

European and Asiatic manufacturers are making determined efforts to regain the Brazilian trade they enjoyed before the war. English, French, Italian, Spanish, Belgian and Japanese manufacturers are preparing for most excellent commercial displays, while, unfortunately, up to this date American exhibitors are few and by no means in accord with the importance of our industrial wealth and commensurate with our interest in the Brazilian market. Our Government, clearly appreciating the intense importance of the Centennial Exposition is erecting, at a cost of one million dollars, a building for governmental exhibits only and thereafter to be used as the American Embassy; Secretary Hughes, with a carefully selected staff is already on his way to personally represent the goodwill of the United States to Brazil. A superb monument costing one hundred thousand dollars will be donated by American friends of Brazil to our sister republic of the South. All of these are significant tokens of friendship and individual appreciation, but they need to be completed by material proofs of our sincere intentions regarding the creation and maintenance of mutual profitable commercial relations between both countries. One may simply imagine what the Brazilians will think of our industrial supremacy when looking at a small and unimportant show of our

products in comparison with abundant and brilliant displays from our competitors, and one may also surmise the advantages which the latter will derive from such an unfortunate condition.

We respectfully, but earnestly appeal to both the patriotic sentiments and the commercial ability of our members and frankly ask that if they expect to enter or expand in the Brazilian market, it is almost imperative that they arrange to show to the Brazilian public their products, taking into consideration that by so acting they are rendering a practical service to their country and to their own interests.

They should have in mind that our appeal to them is absolutely disinterested and that the services of the As-

sociation are at their disposal in case they require any further information or assistance.

FOREIGN INSURANCE LAWS

The Bureau of Foreign and Domestic Commerce announces that a new section dealing with the insurance laws in foreign countries has been installed in the Bureau's Division of Commercial Laws. This new section, to be known as the Insurance Section, will deal with all forms of commercial insurance, other than insurance on hulls. It will serve the interest of American users of insurance, as well as of American companies writing insurance at home and abroad, and of American insurance brokers.

American Passport Situation

Before the World War very few countries required foreign visitors to show passports. The war necessitated the general use of passports. The visaing of passports was also strictly enforced. The high charges for these documents and formalities made to discourage travel in war times were maintained after the cessation of hostilities.

While the United States no longer requires its citizens to secure passports, most European countries insist upon them. The United States, however, still practically maintains war time charges for issuing a passport and visaing a foreign passport, viz., \$10 and \$9 respectively. Consequently an American going abroad, expecting to visit several countries, finds passport fees particularly burdensome as foreign countries usually exact of Americans the same high fees for visas charged by the United States Government.

Because of many protests on the part of those interested in removing handicaps on foreign trade activities, a bill (H. R. 12235) is now before the House Committee on Foreign Affairs making great reductions in these charges. The bill was drafted by the Department of State.

The provisions of this bill include a reduction in the issuing fee from \$10 to \$5, with validity of a passport so issued for a period of two years, and a right of four renewals, valid

for two years each, at a charge of \$2 per renewal. The fee for visaing is reduced from \$10 to \$2. At the same time the Secretary of State is granted the right to increase this fee to the nationals of any country which assesses more than \$2 for visaing the passport of an American citizen.

Meanwhile the State Department by arrangement with the several foreign governments is now issuing passports with the general designation, "All Countries," in lieu of the practice of listing specific countries of destination, as formerly. Exceptions to this arrangement, however, are made in the case of Norway and Sweden, at the request of the authorities of those governments; passports to destinations including Norway and Sweden will read "All Countries, including Norway and Sweden." The adoption of this plan will not only facilitate the handling of applications and the issuance of passports but will tend to remove one of the principal causes of inconvenience and delay experienced by American travelers and business men abroad, in connection with the alteration of schedules of travel following the granting of passports.

Visas are no longer required in the case of American passports by Switzerland, Belgium, and—where the holder of the passport is to remain within the country not over eight days—by Holland.

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NICKEL formerly **SILVER**
German

WIDE SHEETS, POLISHED
AND PATENT LEVELLED
SAND CASTINGS

Nickel Silver

**Phosphor
Bronze**

Cupro Nickel

Brass, Bronze, etc., Ingots,
Sheets, Wire, Rods, Tubes,
Blanks and Shells

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THE FALL OF THE MARK

The falling mark has turned the German business world topsy-turvy. Government and railway securities which formerly were considered gilt edged, are shunned as a pest. The Germans are neglecting even their own substantial industrial securities and are scrambling for dubious foreign bonds. Even Hungarian and Turkish certificates are beginning to look attractive.

The bankers raise their hands in despair when Americans come with a few hundred dollars, asking in a matter of fact way millions of marks in exchange.

Tourist shoppers are holding tightly their purse strings, exchanging only \$10 or \$20 daily for marks, for they sold their dollars heavily a month ago when the mark had twice its present exchange value. A few Americans, however, are lured by the low prices of luxuries and real estate. One hurried to the bank for marks, and before the day ended bought six houses in the suburbs of Berlin at an average of \$1,000 each.

Shop prices have not yet advanced in proportion to the drop in the mark. Retail merchants are repricing their goods at a higher figure, but they are moving slowly because they are not sure which way the mark will go. But in every establishment the clerks are always busy changing the price tags.

One of the most prominent jewelers in Unter den Linden has marked all his prices in dollars. Many wholesalers quote prices only in dollars and are asking New York prices. When the foreign buyers lose interest the local dealers become more perplexed than ever over what to ask for their goods. This is so even at the corner cigar store, where efforts to determine the proper sale price induce the owners to guess at the price to ask.

There is such a demand for paper money that the stock of bank notes is nearing exhaustion. The Reichsbank which had 9,000,000,000 marks in twenty mark notes in its basement some days ago, has emptied its vaults. This obliged the bank to begin re-issuing patched up money which has been returned in a mutilated condition for withdrawal from circulation, as it was unable to print enough new notes to replace the old ones. Business interests demanded a note issue of 16,700,000,000 marks in new money.

In restaurants, clubs and hotel lobbies exchange rate discussions are carried on from morning to midnight. Foreign guests have got into the habit of awakening in the morning to ring for the chambermaid or bellboy, who always can be relied upon to know how the dollar stands.

EFFECTIVE MOTION PICTURES FOR INDUSTRY

Motion pictures in industry will be effective only if they are intelligently produced and honestly distributed. They must tell your story accurately, briefly and in a picturesque manner. A motion picture which has for its main qualification merely length or "footage" is not worth the trouble and expense involved in its production.

Properly used, the motion picture is a most effective contact for general educational purposes; direct sales promotion, and for the development of the good will of the public and the employees.

F. Eugene Ackerman and his associates offer their services as editorial advisers to those manufacturers or associations of manufacturers who are contemplating the production of motion pictures that will tell the story of their industries. This organization does not produce motion pictures nor has it any affiliation with any organization engaged in this occupation. We supply skilled and competent editors experienced in the writing of scenarios, continuities and in the intelligent arrangement and distribution of motion pictures.

We protect the manufacturer against his lack of experience in a highly technical field. Conferences without obligation.

F. Eugene Ackerman

Organization and Publicity

**141 Broadway
New York**

FOREIGN TRADE OPPORTUNITIES

The inquiries for American goods received by the National Association of Manufacturers from abroad will now appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

NORWAY

Agencies for Norway and other Continental countries. A native of Norway, who was for several years on the staff of the Foreign Trade Department of the N. A. M. and who has had extensive experience in international trade and banking, now contemplates engaging in business on his own account as agent for American manufacturers. He is interested particularly in such lines as road building machinery, excavating machinery, railroad materials, motors, automobiles and trucks, and also all kinds of specialties in the way of office supplies and household goods. While he is a resident of Norway, he is also prepared to cover other parts of Europe. He does not require an immediate exclusive arrangement, but prefers first to make suitable investigations as to the possibility of the goods and if warranted, to then enter into an exclusive agency arrangement. (314)

Flour, grain, fresh and dried fruits, spices, coffee and foodstuffs generally. The inquirers are a firm of merchants. (315)

NEW ZEALAND

Wireless sets and equipments for New Zealand are of interest to a firm of merchants and importers. (454)

SOUTH AFRICA

Household specialties, hardware and allied lines are of particular interest to an agent, well established, in Johannesburg, and who is now visiting the United States; well recommended by responsible men. (455)

Lithographed covers for writing pads, blank books, etc., for South Africa. The inquirers are makers of stationery of all kinds, and desire to receive from lithographers in this country, samples and quotations, on covers for their products. (456)

EGYPT

Starch, glucose and flour for Egypt. The inquirers desire to represent American manufacturers. (457)

MESOPOTAMIA

Merry-go-rounds for Mesopotamia. The inquirer desires illustrations and best quotations, on hand and power operated apparatus of this kind. (464)

BALTIC COUNTRIES

Representation in Baltic Countries. A Netherlands company with headquarters in Amsterdam and Danzig, and branches in Reval, Riga, Warsaw and Helsingfors, who are also represented in the United States, desires to form connections with American manufacturers desirous of being represented in the markets mentioned. (465)

CANADA

Woolen goods of all kinds, including worsteds, suitings, serges, overcoatings, linings, etc.; also silks of all kinds for women's wear, hosiery, and underwear for Canada. The inquirers desire American agency connections. (466)

MEXICO

Pork lard for family use in cans from 36 to 38 lbs. and general groceries, are of interest to a merchant and commission agent in the food products line in Mexico. (467)

Machinery for the manufacture of pills and tablets is of interest to a druggist and chemist in Mexico. Correspondence in Spanish. (468)

Sateen cloth or cheap light-weight baize of exactly the same color as the felt used on billiard table tops suitable for covering toy billiard tables, 4½' x 2¼'. The inquirer desires prices and samples. (469)

CUBA

Machinery and tools for the manufacture of brushes of all kinds, both of roots and bristles, is of interest to a firm of merchants in Cuba. Correspondence in Spanish. (470)

Machinery and tools for the manubile service and repair stations; machinery and supplies of all kinds for printing of periodicals and jobbing work generally, also paper on reels for printing periodicals, also printers ink is of interest to a merchant in Cuba. Correspondence in Spanish. (471)

Bathroom fittings and fixtures, such as mirrors, towel racks, soap dishes, etc. are of interest to a firm of merchants in Havana. (472)

Hardware, furniture, perfumery, toys, stationery supplies and novelties of all kinds are of interest to a merchant in Cuba. Correspondence in Spanish. (473)

PORTO RICO

Five, ten and twenty-five cent store trade articles and supplies of all kinds are of interest to the proprietor of a business of this kind in Porto Rico. (474)

DOMINICAN REPUBLIC

Agricultural machinery, apparatus and supplies of all kinds for Dominican Republic. An organization of the leading agriculturists of that island desire catalogs of American manufacturers for their library and propaganda department. They are also interested in reference works of any kind referring to agriculture in the tropics. Correspondence in Spanish. (475)

BOLIVIA

Machinery and apparatus for making hosiery of all kinds; silk, mercerized cotton and cotton yarns for

hosiery makers; forms and apparatus necessary for boarding and all tools and accessories necessary for installing a complete factory. The above is of interest to an inquirer, who intends to open a hosiery factory in Bolivia. (476)

BRAZIL

Building materials, iron and steel and metal generally, hardware of all kinds, paints and varnishes for Brazil. The inquirers desire to secure American connections. Correspondence in Portuguese. (477)

CHILE

Vats and pits, also apparatus for cleaning wool and equipment for the manufacture of hosiery, underwear, blankets and wool covers. A gentleman in Chile desires to establish a manufacturing establishment for the above. Correspondence in Spanish. (478)

PERU

Hardware, groceries, drugs and chemicals for Peru. The inquirer desires to secure American agency connections in the above. Correspondence in Spanish. (479)

Beef and sheep tallow, seventy-six per cent caustic soda, neutro silicate, palm and cocoant oils, cottonseed, peanut and corn oils, rosin, crystals of soda, carbonate of potash, carbonate of soda, ultramarine blue. An inquirer in Peru desires to hear from American manufacturers. Correspondence in Spanish. (480)

URUGUAY

Electrical household specialties of all kinds, electrical medical apparatus, cables, lamps, and electrical specialties generally, are of interest to a merchant in Uruguay. (481)

COSTA RICA

Machinery for modern bakery also apparatus and equipment of all kinds for the manufacture of bread and cake. (482)

SALVADOR

Cotton ducks for men's clothing, also cotton dress goods for women's wear is of interest to a firm of importers in Salvador, which desires prices, catalogs and terms. (483)

IRELAND

Hosiery of all kinds; rubber footwear for men, women and children and department store goods generally are of interest to a department store in Ireland, with purchasing office in London. (484)

Hosiery and underwear for Ireland. A manufacturers' agent in Dublin states that he is well introduced to buyers throughout his territory and wishes to hear from American manufacturers. (485)

HOLLAND

Food products of all kinds, including provisions, oils, fats, chemicals and allied lines for Holland. A merchant and manufacturers' agent expects to be in this country shortly and is looking for American agency connections in the above. (486)

SWEDEN

Advertising specialties, office specialties of all kinds and novelties generally, are of interest to a firm of manufacturers' agents in Sweden. (487)

Chemicals used in the paper industry for Sweden. The inquirers desire to secure American agency connections for the above. (488)

BELGIUM

Cigar box machinery; also machines of all kinds for tropical plantation work such as cocoanut shellers, etc., are of interest to a firm of traders in Antwerp. Correspondence in French. (489)

Food preserves, automobiles and accessories for Belgium. A firm of merchants desires to secure American connections in the above. (490)

FRANCE

Woodworking machinery for France. A firm of manufacturers of market fixtures desires to receive catalogs and quotations on woodworking machinery. Correspondence in French. (491)

GERMANY

Shoemakers' tools and shoemakers' supplies and findings generally, rubber heels and soles, carpenters' tools and allied lines for the Near East. A Berlin house desires to secure agency connections for selling these goods for their own houses throughout the Near East, Egypt, Turkey, etc. They state they buy for own account and pay against shipping documents. (492)

ITALY

Agricultural machinery and apparatus of all kinds, also artificial fertilizer, are of interest to an inquirer in Italy. (493)

Rolled zinc and tinned strips and bands are of interest to a merchant in Italy. Correspondence in Italian or French. (494)

ITALY AND THE NEAR EAST

Printed cotton goods for Italy, Balkans, Egypt and Asia Minor. A client of the branch of one of the larger Italian banks is desirous of forming relations with a responsible American cotton goods manufacturer for securing exclusive sales rights for Italy and the countries of the Near East, stating that, although at present, business conditions in that region are poor, he nevertheless believes that this period of depression will be followed by great activity, especially in the lines mentioned. (495)

GREECE

Sanitary goods, electric lighting supplies and small electric specialties; direct current electric motors of 110 and 220 volts and for three phase 25 per 230 volts, also 25 per 110 volts; also central heating plants for steam and water, are of interest to a firm of merchants in Athens. (496)

SPAIN

Electrical supplies of all kinds, particularly those used for equipping houses. The inquirer desires to act as representative for American manufacturers. Correspondence in Spanish. (316)

Bathroom supplies and sanitary supplies generally, therapeutic and medical bath installations generally, heating plants, ventilation apparatus, electrical elevators; kitchen ranges, refrigerating apparatus, power laundry equipment, hydraulic electric outfits, vacuum cleaning equipment and apparatus for disinfecting. A recently established firm of engineers and builders in Madrid desires catalogs and quotations from American manufacturers, including net and gross weights for figuring freights, duties, etc. Correspondence in Spanish. (497)

Cases and dry cells for pocket lamps, also batteries and dry cells for bells are of interest to a merchant in Spain. Correspondence in Spanish. (498)

Lubricating oils for Spain. A merchant desires to secure American agency connections in the above. Correspondence in Spanish. (499)

Spinning machinery for wool; also machinery and apparatus of all kinds for the manufacture of jute, woolen and chenille carpets is of interest to a firm of carpet makers in Spain. Correspondence in Spanish. (500)

Official International Organ of the National Association of Manufacturers

EXPORT

Formerly Export American Industries

Covers the largest buyers in all the great markets of the world with its separate English, French, Spanish and Portuguese editions.

The established policy of EXPORT is to center the interest of foreign readers on American-made goods and thus effectively promote an increase in our foreign trade

THE CIRCULATION IS AUDITED BY THE A. B. C.

and the following list shows some of the countries to which copies of our separate editions are mailed

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Russia
Sweden
United Kingdom
Misc. Europe
South Africa
East and West Africa
Egypt
China
Dutch E. Indies
Fed. Malay States
India
Japan
Mesopotamia
Siam

Straits Settlements
Misc. Asia
Australia
New Zealand
Oceania
West Indies
South America

Edition in Spanish

Argentina
Bolivia
Chile
Colombia
Costa Rica
Cuba
Rep. Dominicana
Dutch W. Indies
Ecuador
Guatemala
Honduras
Mexico

Morocco
Nicaragua
Panama
Paraguay
Peru
Philippines
Porto Rico
Salvador
Spain
Uruguay
Venezuela

Edition in French

Czecho-Slovakia
Belgium, Bulgaria
France, Greece, Italy
Jugo-Slavia
Poland
Roumania
Switzerland
Turkey

Abyssinia
Algeria
Tunis
Morocco
Egypt
Madagascar
West Africa
Belgian Congo
Indo China
Asia Minor
Haiti
French W. Indies
South America
Oceania
Misc. Europe

Edition in Portuguese

Portugal
Azores and Madeira
Portuguese Asia
Portuguese Africa
Brazil

In addition to that comprehensive distribution in all the purchasing centres of the world to actual buyers of American-made goods EXPORT offers to advertisers:

- 1st—A semi-monthly bulletin service—FOREIGN TRADE TO-DAY—with up-to-date items on exports and inquiries from high-class foreign buyers of American goods.
- 2nd—Carefully selected lists of firms throughout the world for use to supplement the advertising space.
- 3rd—Credit reports and translations at cost.
- 4th—Expert assistance on export problems.
- 5th—Advertising layouts and copy suggestions.

Further information about the publication and sales possibilities for various commodities in foreign markets on application to

EXPORT

The Official International Organ of the National Association of Manufacturers

PHONE: CORTLANDT 7886

50 CHURCH STREET, NEW YORK CITY

PORTUGAL

Office furniture, pencils and office supplies generally for Lisbon. A firm of merchants and manufacturers' agents, already handling a prominent American typewriter, desires American agency connections in the above. Correspondence in Portuguese. (501)

RUSSIA

Glassine, coated, cover, label and soap wrapper paper, also paper for covering fancy boxes for cosmetics and perfumery are of interest to a merchant in Moscow. Correspondence in Russian. (502)

INDIA

Yarns, hosiery and wearing apparel, toilet requisites, glassware, earthenware, traveling supplies, boots and shoes, toilet articles and preparations, stationery, cutlery and hardware, household furnishings, old newspapers, building materials, oilman's stores, electrical appliances. A firm of general importers and traders in India desires American agency connections. (458)

Stationery, chemicals, bicycles and automobiles, paper, sewing machines,

needles, hosiery, musical instruments and goods in general suitable for trading in India, are of interest to a firm of merchants and manufacturers' agents. (459)

Books, paper, stationery, school and college supplies of all kinds, office supplies, periodicals and magazines. The inquirers desire to secure American connections in the above. (460)

Stationery, sundries, glassware, hardware, dyes and colors. A firm of native merchants in India desires American agency connections. (461)

Rolled, solid, and gold-filled jewelry and watches of all kinds are of interest to a firm of traders in India. (462)

Cotton and silk hosiery, haberdashery, toys and dolls of all kinds, games, soaps, perfumery and toilet preparations generally, hair and tooth brushes and sundries and novelties. The inquirers desire to secure American connections in the above for India. (503)

Wooden screws, wire nails, hoop iron and wrought iron and steel hinges of all kinds for India. The inquirers desire to secure American agency connections. (504)

CEYLON

Glassware, crockery, lamps, brass goods, hardware of all kinds, colors, paints and varnishes, perfumery, oils of all kinds, nails, toys and dolls and department store and bazaar goods generally are of interest to a merchant in Ceylon.

BULGARIA

Cotton and wool half hose, cotton ducks, sheetings, twills, cottonades, cotton yarns, etc. A merchant in Bulgaria is interested in American goods of the above lines. (506)

COLOMBIA

Machinery, presses, tools and apparatus electrically driven for equipping a small plant for the manufacture of wooden heels covered with celluloid, for women's shoes, estimates to include full apparatus, and value of entire plant to be not more than \$3,000 to \$4,000. (507)

Tons Of Food For Germany

CONVINCED that the German people will weather the financial crisis they are now facing, Edward Morris, President of Morris & Company, Packers, has approved a shipment of more than 10,000,000 pounds of food products to Germany.

The first consignment—ninety-one carloads—has already cleared the port of New York. Other train loads will follow. Shipments are booked on fast liners and the balance of the food will be in German hands within a few weeks.

The value of the shipments will total about \$1,750,000 or approximately 1,000,000,000 marks, based on current exchange. German buyers have made satisfactory financial arrangements with Morris & Company Berlin and Hamburg branch managers to cover the shipments.

"Germany is badly in need of food, particularly meats," Mr. Morris said. "The Government and the industrial leaders of Germany have realized for some time that the health of the nation and its strength to come back and meet their obligations depends largely on proper feeding of the people.

"Germany, therefore, is in the market for vast quantities of American meats. Since peace was declared,

Morris & Company have been steadily rebuilding their trade with Germany, being kept closely informed by cable of conditions by our representatives there and large consignments of our products have been going forward regularly.

"However, in view of the financial depression which has developed in Germany, we were somewhat surprised when our Hamburg and Berlin branch managers cabled orders totaling more than 10,000,000 pounds, and assured us that finances were available to cover this shipment.

"There is nothing that does so much to kill radicalism—the chief peril to Europe—as a good meal set

down before a hungry man.

"In addition to reopening further a big market, the majority of this American food will arrive in Germany at a time when the country may most need it. I am glad we are in a position to start this shipment just at this time, and I feel certain everybody in Europe will also be glad to see it coming."

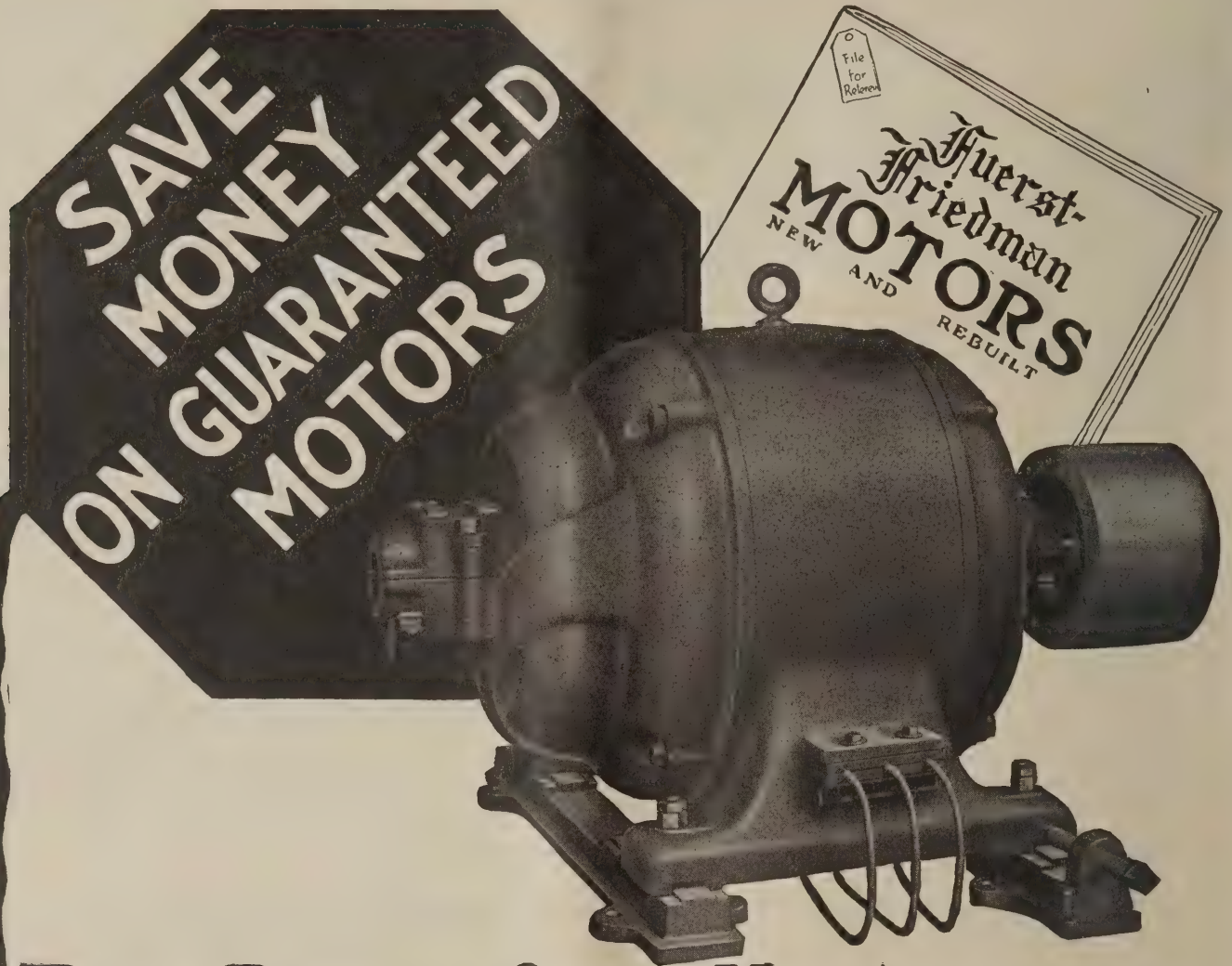
The total shipment out of Chicago will fill more than 250 cars, A. W. McLaren, Traffic Manager of Morris & Company, said. John J. Bernet, President of the Nickel Plate Railway, was in charge personally of the assembling and dispatching of the first shipment.

An Economic Exploration

AN expedition for the exploration of British New Guinea will be undertaken soon by the British Pacific Science Expedition. The plan is to go into the interior never before traversed by white men and to investigate the head hunting pygmies and strange animals such as the tree climbing kangaroo and the wild pigs that resemble miniature elephants.

The more serious side of the expedition will endeavor to determine the economic value of Guinea to the empire, to promote scientific knowledge, to find gold and diamonds reported there and study agricultural possibilities.

The expedition has been organized by two young Australians, Neal McNeal and Lucius A. Connolly, who expect to be gone three years.



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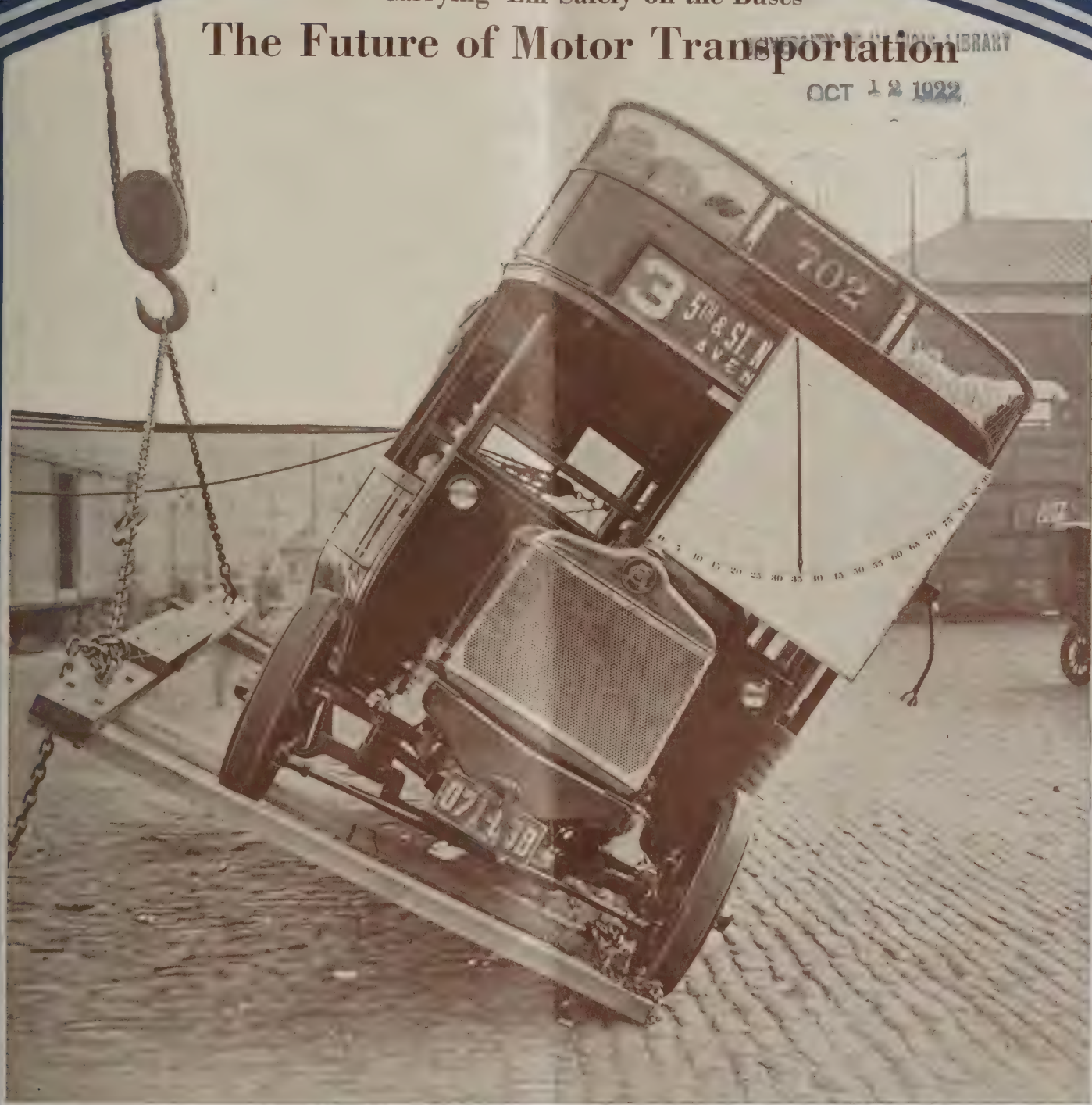
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AMERICAN INDUSTRIES

Carrying 'Em Safely on the Buses

The Future of Motor Transportation

OCT 12 1922



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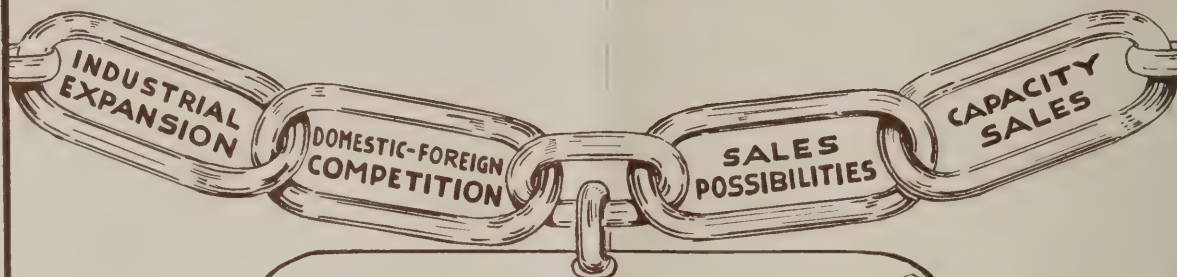
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Vol. XXIII

OCTOBER, 1922

No. 3

IN THIS ISSUE

Cover illustration: Typical, double-decker Fifth Avenue Motorbus, showing the high degree of safety of these vehicles. With a full load of passengers they may be tilted over to an angle of 37 degrees before they will upset. The cover photograph shows sandbags put in the upper seats and inside the coach to represent the actual weight of forty-eight passengers, exactly as they would sit. The center of gravity of this vehicle is only fifty-two inches from the ground. Safety is, and always has been, the keystone in the arch of the Fifth Avenue bus service. Page

THE FUTURE OF MOTOR TRANSPORTATION - - - - -	5
By John A. Ritchie, President, Fifth Avenue Coach Company.	
THE COURTS AND THE CONSTITUTION - - - - -	11
By the Hon. Thomas Dillon O'Brien, formerly Justice of the Supreme Court of Minnesota.	
GREAT PORTS OF THE NATION—PHILADELPHIA - - - - -	13
By George F. Sproule, Director, Department of Wharves, Docks and Ferries, Philadelphia.	
TOO MUCH OIL CLOSES REFINERIES - - - - -	17
BITS OF NEWS ABOUT MEN IN INDUSTRY - - - - -	18
BUSINESS BRIGHTENS FOR THE FALL - - - - -	19
ROMANCES OF INDUSTRY—RADIUM - - - - -	21
By James C. Gray, President, Standard Chemical Company.	
EDITORIAL - - - - -	24
MAKING NEW ROOFS FROM OLD RAGS - - - - -	28
UNEMPLOYMENT AND SOME OF ITS CAUSES - - - - -	29
By Hugo Bilgram, President, Bilgram Machine Works.	
SAVING THE INDUSTRIAL COAL PILE - - - - -	33
By T. F. Manville, President, Johns Manville Company, Inc.	
HUGE WOOL STOCKS TO BE RELEASED - - - - -	34
MAKING IT SAFE FOR THE SAND HOG - - - - -	36
TEXTILE MILLS A BIG MARKET FOR INDUSTRIES - - - - -	38
WORLD TRADE - - - - -	39
ASKS PARTICIPATION IN THE NEAR EAST - - - - -	39
CONTEST FOR SOUTH AFRICAN TRADE - - - - -	40
FOREIGN TRADE OPPORTUNITIES - - - - -	44

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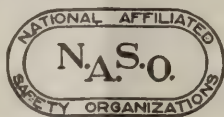
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Information may be obtained from the Secretary of the National Founders' Association.

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D. M. Edwards, Editor

Vol. XXIII

OCTOBER, 1922

No. 3

Future Of Motor Transportation

The always popular motor-bus, starting in an humble way, has developed marvellously into a palatial coach taking first rank in building up the country and in straightening the people's morale

Written especially for AMERICAN INDUSTRIES

By JOHN A. RITCHIE

President, Fifth Avenue Coach Company

THE importance of the motor coach is growing more rapidly than any other transportation agency. Why? Because transportation costs in the United States are both excessive and wasteful. The motor coach has a distinct place in the transportation scheme. It is important already and its future possibilities are enormous. Both economically and sociologically it is bound to have very far reaching effects.

Marvellous as are the statistics of its growth, the motor driven vehicle is still only a small part of the transportation machinery. Its growth in importance has been spectacular, even dramatic, but it promises to be even more so. To forecast accurately its future one must take into account its relationship with other forms of transportation.

Let us take a look at the transportation picture as a whole.

Suppose, as Mr. Harlow Clark suggests, we had an omniscient and

all-powerful Dictator of Transportation, having full power to order its disposal wherever he pleased and in whatever way seemed to him best to attain the most efficient and most economical service to the public as a whole. He would be faced with these facts.

1. We have about 265,000 miles of steam railroads in the United States.

2. We have about 32,000 miles of electric lines, city and interurban, and not counting those portions of the steam railroad systems that have been electrified.

3. We have about 26,000 miles of navigable rivers and about 3,000 miles of canals; with a salt water coast line nearly surrounding the country on three sides.

4. We have over 300,000 miles of improved highways.

The mileage of railroads since 1916 has stood almost still. No great change has taken place in any of the other factors except the last. More improved highways are being built all the time.

In addition to the above the Dictator of Transportation would have to take into account the possibilities of airplane service, undoubtedly in its swaddling clothes, and capable of development in a way to make it very soon, an enormously important factor, certainly in specialized transportation.

Given the perfecting of the helicopter principle which will enable airplanes under perfect control in all ordinary weather to rise perpendicularly in



The old Broadway Buses of two generations ago—when each had a name

flight and to descend perpendicularly, airplane terminal facilities will become possible with small spaces located even amid congested surroundings. On the attainment of this one ideal—and it may come at any moment—the airplane will expand instantly in its availability to a degree that can no more be imagined than Alexander Graham Bell could have imagined the present functions of the telephone.

But for present purposes we need not consider that phase of the situation.

What is the very first great fact our Dictator of Transportation would be forced to recognize as the one of greatest importance, the fact that more than any other would condition his task?

The fact of disorganization. He will find lack of correlation and co-ordination, duplication of service, a wasteful excess of one-way loading, inefficient methods of loading and unloading.

The average freight rate for all classes of freight per ton-mile (the carrying of one ton one mile) on American railroads is only about one and one-third cents. Before the war it was less than one cent. Compare that to the cost of local deliveries by wagon, motor truck or any other method. Here alone is one tremendous uneconomy.

So great a measure of organization has been necessary in the economic growth of the world to attain our present understanding that it may sound startling to cite disorganization as the great obstacle to be overcome. But progress looks not backward; it begins each day from the point already attained. The disorganization remaining, not the disorganization overcome, is the problem at hand.

Some one has said that no one ever starved in this world except for lack of transportation. Somewhere in this world there is food. The great famines of the past, before the days of modern transportation, were due to local failures of Nature. And in this day only such conditions as obtain in Russia, or in India or China—everyone of them of such a character as to prevent adequate transportation—can permit a general famine.

But it is not my intention to explore the facts of world disorganization here and I allude to it only because of its blood relationship to lack of organization in the smaller sphere.

Our Dictator of Transportation surveys his field and finds something like 1800 independent railway companies in the United States, about 200 of which are termed Class I railroads, each doing a business of at least a million dollars a year. He finds them guided inevitably by divergent inter-

ests. He finds like conditions in each of the other fields of transportation, whether it be ships, canal boats, electric lines or motor trucks.

He finds still other elements of disorganization. Not only are the railroads competing in greater or less degrees with each other, they are competing with all the other transportation units.

As to the State—he finds an utter lack of uniformity in policy as to public expenditures for transportation purposes.

In some states these expenditures run into huge sums, in other states very little. In New York State, for example, he finds that hundreds of millions have been or must be expended on canals, and other hundreds of millions on highways. Everywhere our Dictator of Transportation finds an utter lack of a central policy of expenditure, dominated by the purpose of devoting to each kind of transportation just the amounts of money which the relative efficiency and fitness of each in the whole scheme demands.

The first task of our Dictator therefore, would be the one of organization, co-ordination and co-operation.

He would first determine the costs of each branch of the service, and that would include interest on the capital invested.

He would then determine whether the users of the service were to pay charges sufficient to pay the costs, or whether the general public was to pay part or all of it by taxation.

He would next seek to avoid duplication of service and unnecessary duplication of plants. He would seek to provide a load both ways, instead of a load one way, only.

He would determine just what part of transportation service could best be done by steam railroads, just what part could best be done by water (salt water, fresh water rivers or lakes or canals), just what part could best be done by electric lines and what part could best be done by motor vehicles.

The important point here is that the determining factors would be not the individual interests of competing companies, the success of one being at the expense of the other (which in last analysis that would be at the expense of the public), but by the public interest in the best service at the lowest attainable cost.

The above of course pictures an ideal. It is an ideal far removed from the present situation, and it will take a long time to attain. But it is a goal—at least so far as the steam railroads are concerned, already recognized in the Transportation Act of 1920 which permits (though it does not command)

the unification of existing competitive systems into larger regional units.

We have no such individual as a Dictator of Transportation. But the principles which would guide him are coming slowly into recognition by the only Dictator we have, or ever shall have—namely the Public itself. And in last analysis it is the public which must decide just what kind of transportation it will have. And whether the public decides these questions wisely and quickly or unwisely and slowly will depend exactly upon the soundness or unsoundness of the public's information as to the fundamentals.

Already it is becoming clear, in all public utility service, that competition (in the old sense of trade warfare) means waste, while competition in service means the reverse. Professor Reeve in his "Cost of Competition" suggests a better word for "competition in service," namely "emulation" or the effort to do better the thing that needs to be done.

There can be no question that the sheer force of economic and sociological development will enforce a higher and higher degree of organization and the elimination of uselessly opposing effort in public services. On this assumption, what can be said for the future of the motor vehicle, passenger and freight? For what service is it adapted better than other means? What are the factors in operation which gave it a field? To what future do these things point?

The motor truck revealed its true importance during the war. That importance has grown with every month and will doubtless continue to grow. As a competitor for short haul business, particularly of less than carload lots, it has become a serious factor in railroad calculations. Mr. Elisha Lee, vice-president of the Pennsylvania Railroad, says of it:

"Granting an adequate basis of taxation to compensate for the otherwise free use of highways constructed and maintained by the public it is not my belief that motor trucks are destined ever to rival the railroads in the field of carload or bulk transportation, especially over the longer hauls. Highways capable of sustaining a heavy motor truck service cost more to build and keep in repair than do standard railroad lines, and the latter can, when dealing with the larger quantities, carry each ton a mile for a far lower total cost. Moreover, the superiority of railroads in contending with severe weather conditions and in being ready to handle any and all kinds of traffic when offered is obvious, and, in my opinion, not likely to be impaired.

"The advantages in trucks lie in the

flexibility of their operation and in the fact that they do not require elaborate and expensive terminal facilities. They seem especially adapted for handling less-than-carload traffic over short distances and on good roads and well paved streets, and for performing the terminal portions of the service required in the collection or delivery of through or long distance less-than-carload rail traffic. In the one instance they are capable of giving service to points not reached by the railroads and of helping to relieve the railroads of a burden; in the other instance they directly act as auxiliaries to the railroads in performing their service to the public. In both cases they should prove useful aids in increasing and extending the utility of our existing railroad system."

The benefits of the kind of organization which must come in transportation industry promises much in adding to the farmers' convenience. Nearly every one knows how in the early days his cans of milk might be collected from time to time and taken to the creamery. On a loading station on the highway in front of the farmer's house, all his products may be taken regularly to market by motor truck lines which will have developed a regularity of service equalling that of the railroad.

Hundreds of millions of dollars are being expended by the various states for the improvement of their highways. As an example, the total expenditures in Massachusetts for highway construction and maintenance have grown from \$600,000 in 1907 to \$5,000,000 in 1920. In 1907 the counties were expending practically nothing



Fifth Avenue and Fortieth Street in 1897, just twenty-five years ago

for new construction but devoted nearly \$1,000,000 to that purpose in 1920. In 1908 incorporated cities and towns expended less than \$3,000,000. In 1920 the amount was practically \$20,000,000. In the twenty-seven years that that State has been engaged in constructing, developing and maintaining highways, it has expended a sum slightly in excess of \$30,000,000. In the same period the cities and towns have in addition expended over \$180,000,000.

A statement by the United States Department of Agriculture gives many interesting details concerning Federal appropriations for highways. The postoffice appropriation bill, signed by

the President on June 19th, authorizes expenditures of \$190,000,000 in federal aid for road construction, to be expended within the next three years. These funds are to be matched by the states, and do not include bridge construction.

It is estimated that the \$190,000,000 lately authorized will result in the construction of more than 25,000 miles of improved road, which added to the 46,000 miles expected to result from previous appropriations, makes a total of 71,000 miles or nearly 40 per cent of the estimated 180,000 miles of road in the system aided by the Government in its present plans.

In considering the future of motor transportation one must take into consideration whatever outstanding or unique advantages it may have. The motor buses or coaches may be used advantageously:

1. Over routes forming extensions of existing railway routes.
2. Over routes forming connections between exchanging lines.
3. Over routes independent of electric or steam railway routes.
4. Over routes identical with but supplementing electric or steam railway routes.

All over the country there are, not only in large cities but in smaller cities and villages, numerous sections requiring transportation for passengers but with a density of population not sufficient to justify the large investment called for for electric railway operation. The motor coach is filling this want with a growth that is astounding. Different communities may need different types of motor coaches and they are being developed



Fifth Avenue to-day just above Forty-second Street

to meet the varied needs. They are pioneers of transportation. Comparative costs will determine the finally successful method.

An additional possibility for the motor coach is in operation over routes (mainly in large cities) where the public will pay an increased fare for an especially high class service, in a special class of motor coaches. That this is not a purely imaginary field of operation is proven by the experience of the Fifth Avenue Coach Company. The people usually get what they want if they want it hard enough.

The American people want quality and they are willing to pay for it. Witness the struggle for lower berths in preference to uppers on Pullman cars; and note the fact that the popular trains between the great cities are the extra fare trains. There can be no question that in America the real thing which people want is not so much cheapness as excellence.

Following are some of the advantages of motor coaches over trolley cars:

1. Decided preference by the public.
2. Easier to finance because of popularity and lower capital investment.
3. Prompt installation without tearing up avenues and boulevards. No costly surveys; no underground or overhead power transmission systems; no power houses and no tracks.
4. Routes can be extended at much less expense to care for cities' growth and expansion, or short line service instituted without delay due to laying tracks or installing expensive cross-overs.
5. Greater flexibility. Non-paying routes can be abandoned. Motor coaches can be moved quickly from one part of a city to another, by the shortest route, as the traffic demands.
6. Lighter weight results in practically no wear on properly constructed pavement. Heavy trolleys are always severe on adjoining pavement.
7. Motor coaches occupy less street space and garage space per passenger than the trolleys.
8. They can be operated through congested areas in greater volume than street cars because they do not follow any fixed line of travel. Motor coach capacity is equal to street capacity, instead of being limited to track capacity.
9. They facilitate speed of traffic because they pull to the curb. Oncoming traffic can pass on the legal side, whereas trolley cars stop in the center of a street, and all other traffic must stop behind it, since laws pro-

hibit passing them when standing even on the right.

10. Motor buses have a higher average rate of speed through congested areas. They can pass each other, wind in and out of traffic, etc., and the whole line is not delayed by an inexperienced driver or a defective vehicle as on trolley system.

11. The failure of one coach affects only that one vehicle. Routes can be diverted in case of fire, parades, or other obstructions.

12. Each unit being self-contained, the service is less liable to interruptions due to power house and transmission troubles, due to labor troubles in the former, and the influence of floods, snow, etc., in the latter instance.

13. They decrease vehicular con-

able for private hire and entertainment of visitors.

19. It is cheaper and easier to remove snow from motor coach routes than from trolley routes.

20. Motor coaches can be heated by exhaust gases without additional expense.

Unquestionably if a motor-bus service is to realize its possibilities of financial success, it must be backed up not only by ample resources, but it must also develop a highly specialized organization. Experienced management and direction is imperative. The engineering force requires a special experience for the demands upon the passenger motor coach are quite distinct from the demands made upon any other type of motor vehicle.

The needed traffic studies and sched-



Palatial type of motor coach for interurban lines

gestion—and give the equivalent of a taxi service at a lesser cost—thereby making for a less use of private cars with attendant less parking of cars on streets.

14. Motor buses are safer for passengers boarding or alighting since they do so at the sidewalk and not in the middle of the street in the midst of traffic.

15. They are less noisy and more desirable in residential districts.

16. Express service may be run without affecting normal operation.

17. Motor coaches are more attractive to visitors. They draw tourists to a city and advertise all points of vantage.

18. They provide cheap, healthful recreation and are also very adapt-

ule making are unique. The employees must be trained in a branch of motor-vehicle operation with many distinct and unique peculiarities for which the operation of neither the automobile nor any form of surface transportation affords suitable training.

Unquestionably the wisest policy both from a financial standpoint and the service results to the city is to entrust a single well-organized and equipped motor-bus company, possessing ample resources, with the development of a unified service with a system of transfers.

Parcelling out streets to two, three or more companies will never provide the Pullman car service which the true motor coach can give. If the parcelling out process is adopted and

the several companies are of a non-descript character with the usual type of jitney equipment, the outcome can only be chaos. The actual result of any form of competition must be multiplied fares and no transfers. With a unified system there can be no harmful monopoly, for the fare should be determined by the authorities and the company should be under public regulation; but so-called competition from a public utilities standpoint means bad service and financial failure. Cities cannot be prosperous without efficient utilities and utilities cannot be efficient without prosperity.

The requirements put upon a true passenger motor coach are quite unlike the requirements put upon any other motor vehicle. There must be the highest attainable factor of safety. This alone makes an especial demand upon the motor coach designer and builder. Real success in motor coach transportation cannot be attained except with a vehicle specially designed to meet motor coach transportation needs.

Our company experimented for seven years on motors and omnibus bodies built in other countries and by concerns in this country. Finding, however, that a machine properly adapted to the work of the motor coach would have to be built upon special plans to fit its every need, our company undertook to build its own coaches. It has developed a machine which is admirably adapted to its purpose. Every item that goes into the construction of the machine has received the utmost consideration and study and proved its value after care-

ful trial. The result is that the Fifth Avenue bus is operated with a minimum of breakdowns or interruptions of service and with the greatest comfort to its passengers.

The popularity of the motor bus is beyond dispute. In the four years preceding the war—later figures are not yet available—the ratio of increase in passengers carried on motor buses in London was 135.99 per cent, as compared with the ratio of increase on the tramways (trolley cars) which was only 18.7 per cent. There are over 4,000 buses operated in Greater

London every day, handling a daily average of more than two million passengers.

Late figures on bus operation in Paris are still lacking, but those of 1913 show that in that year there were in daily use 1,032 coaches, and the increase in passenger service in the motor coaches as compared with the subway and trolley lines combined show that from 1911 to 1913 the number of passengers on motor coaches increased 81.4 per cent, while it only increased 10.2 per cent on the subways and surface lines.

Bringing the matter closer home, figures prove even more conclusively the increasing popularity of the motor coach as a mode of transit. In 1910, passengers carried by the coaches in New York City numbered 6,503,175. In 1921 there were 51,091,365 passengers carried by the coaches, or an increase in eleven years of 710.31 per cent. In 1920 the number of passengers carried were 42,552,709—which shows that the increase in popularity over the preceding year was 20.06 per cent.

From 1910 to 1918 the increase in the number of passengers carried by the surface lines in New York equalled 8.4 per cent, as compared with the 344 per cent for the motor coaches. Such comparison, it seems to me, speaks for an unparalleled future in the business of motor coach transportation.

So convincing has been this argument for motor coaches in New York, that Chicago, Detroit, Milwaukee, Toronto, Pittsburgh and Baltimore have instituted motor coach operation,



Type now used in New York, Pittsburgh, Detroit, Baltimore, Toronto, etc.



New light practical all-year double decker for cities

and each of these cities has found that it has more than paid.

The traffic problem of the past has been largely an engineering one. The problem of the future must consider the sociological, the aesthetic and the recreational side of the transportation industry, in a word its human side.

During the last few decades, the great forces of commercialism have been packing people into the cities just as densely as life can exist. The percentage of population in urban communities has increased from 12.2 per cent in 1850 to 51.4 per cent in 1920. This is indicative of an economic evolution which has far-reaching consequences in the life and industry of the nation, and it has particularly to do with the business of transportation.

New York City, according to statement issued by Dr. Walter Laidlaw of the New York City 1920 Census Committee, is the most congested city in the world.

In 1920, 68.2 per cent of the city's entire population was housed in 8.1 per cent of its area. Stated in another way 3,252,452 persons were housed on 14,834 acres, or an average of 219.2 persons per acre. By 1915 this congestion had arisen from 68.2 per cent to 71.3 per cent, but the opening of the new subways resulted in that percentage falling, until in 1920 it was practically the same as in 1910.

It will be from five to six years after the work is begun before new subway construction can be completed.

It is an interesting fact that the centers of London and Manhattan are decreasing in population; the outward rims of the cities are growing.

It is not only desirable that the workman be able to go away from the busy centers of congestion to more wholesome surroundings in the outlying district, but it is necessary that everything be done to encourage him to do so. Their children can have more favorable surrounding and family life can exist in something like true American form.

Moreover the development of the outlying districts raises the value of property in the city. But in the encouragement of suburban life, nothing is of more importance than providing expeditious, healthful, comfortable and easy means of public conveyance to and from the city.

So far as congestion is due to the location of factories in congested city districts, upon areas whose value adds enormously to the overhead expenses, the removal of the industrial plant to more convenient and less expensive locations is indicated. In a city like New York would it not be an enormous improvement to remove the industry to a suburban location rather

than to force upon operatives the constant daily grind of traveling under conditions such as not only exist but seem likely not to be remedied for many years, indeed, if ever?

Not to follow his policy means a certain continuance of congestion and with it enormously expensive municipal projects—more and more costly subways, widening of streets, tearing down of buildings to make new streets and the like; and even after these costly municipal projects have been accomplished the fact of congestion will not have been lessened a whit—indeed will have been increased!

The salutary effect of the automobile in promoting the health and happiness of the American people and the beneficial effect it has had in an educational way in broadening the vision of those who have been able to add to their knowledge of things generally from their little journeys into parts hitherto inaccessible and unknown to them cannot be denied. In a limited sense the same advantages flow from the introduction of motor vehicle service and these advantages cannot be underestimated.

It is just as necessary for a city to obtain cheap and healthful means of recreation for its citizens as it is to safeguard the populace by proper police and fire regulations, tenement and sanitation laws, factory regulations, workmen's compensation, health and sick benefits and so forth. After a day's work, there is really nothing more healthful, more restful, more all-around beneficial than a few hours at the minimum expense in "God's own theatre"—atop a modern double deck motor coach.

In the past five or six years the newer paraphernalia of civilization have had a great influence on our mode of life, the electric washer, ironer, cooker, the ice box, central heating, elevators, the telephone, the phonograph, the radiograph and other inventions have had almost revolutionary effects. These affect life in given places but the motor vehicle makes new places heretofore inaccessible readily accessible, with comfort, speed, and at low cost. The result is that all about the larger centers of population throughout the country we see workmen's homes springing up, one of the most healthful signs of the times. The office hours of the business or professional man are not so specifically defined and restricted. More and more they are going to the small surrounding villages and hamlets, many of them forsaking entirely their homes in town.

As important as all this is from a sociological point of view, it is only secondary to the good influence this

change should have on things political. All over the world—in England, Germany, Italy, France, Russia, and, for that matter, in America—we have witnessed a growing disregard for property rights.

A study of our census reports since 1850 shows a startling increase of tenantry and a corresponding decrease of the individual ownership of homes, and of farms. The sheet anchor of American independence has been a sturdy individualism and patriotism to which nothing has contributed more than a sense in the working man or farmer, of proprietorship, not only of his own home but a sense of proprietorship of a share in our country as a whole.

It seems plain that our political stability can find nothing that will further it so powerfully as an increase of opportunities for home ownership. The tendency for many years has been quite the reverse.

If our present form of civilization is to be preserved, sooner or later more thought must be given to the preservation of property rights and the opportunity for more people to enjoy ownership of property. In striving for this end what could be more effective and wholesome than to bring about a condition where more of our people can become home or farm owners? Unquestionably the motor vehicle is going to help to bring about a greater diffusion of population and thus help to make individual home or farm ownership possible to men now having little or no possibility of property ownership.

THE PEOPLE LIVING ON FARMS

The new census count gives a picture of the relative importance of agriculture in the nation's entire economic and industrial life that is more accurate than counts made in former years, officials explain. This is the first time the census has enumerated persons living on farms. Heretofore an enumeration was made of what was known as the "rural population."

This included, in addition to actual farm residents, all persons in towns of 2,500 or less. The basis of this enumeration was that most persons living in towns of this size were more or less interested in agriculture. They worked on farms at least part of the time. The rural population, so-called therefore, was regarded as constituting approximately 50 per cent of the nation's entire population.

The new count supplies exactly the number of persons actually working forms and dependent for their means of support upon the agricultural industry.

The Courts And The Constitution

An analysis of the fundamental structure of our vital institutions and of the recent attacks made upon our entire judicial system by individuals and such bodies as the American Federation of Labor

Prepared especially for AMERICAN INDUSTRIES

By the HON. THOMAS DILLON O'BRIEN

Formerly Justice of the Supreme Court of Minnesota

THE American courts, both state and federal, exercise the right to construe and interpret the Constitution and to say whether an act of Congress or of a legislature is contrary to the fundamental law. This is a tremendously important function, and there have always been those who insisted it was a dangerous power to place under the control of the judiciary.

The opponents of this system say that judges are seldom in touch with the popular will; that they are ultra conservative; that they are almost invariably chosen from corporation lawyers, prejudiced against, or at least indifferent to, public opinion, and that their previous environment and work have unfitted them to sympathize with the people, or to understand or appreciate the need of progressive legislation. Further, that it makes the Judicial Department superior to the two others, which is of itself, they say, contrary to the Constitution.

As to these general complaints, little need be said. Judges are usually men of mature age, and naturally careful and conservative, but it is not true that they are not in accord with established public opinion or true progress, and above everything they believe in individual liberty.

Lawyers (and judges are lawyers who have graduated) have many sins to answer for, but no one will deny their love of freedom. Edmund Burke, in his speech on conciliation, said the American Colonists were much given to the study of law and that "This study renders men acute, inquisitive, dexterous, prompt in attack, ready in defense, full of resources."

A lawyer, being constantly called upon to defend the liberty and property of his client, must learn to value personal rights. He must be prepared and ready to face hostile criticism and popular prejudice. He must study history and analyze precedents. He must know men and understand human nature, for his aim is to win men to favor his contentions. He is constantly considering the rights of the individual citizen, and even though while practicing at the bar he may represent a client whose contentions are against

the public welfare, once he becomes a member of an independent judiciary, his knowledge and previous study force him to become the protector of individual liberty and the public good.

Whether the courts should have jurisdiction to declare legislative enactments repugnant to the Constitution, is the important consideration, and one naturally asks:

"Is it necessary for the preservation of the Constitution, that this tremendous power should be held by the courts? In the absence of such power, would the fundamental law gradually be nullified? Would vicious, unfair and partizan legislation appear upon the statute books? Would tyrannical executives usurp arbitrary powers and destroy individual liberty?"

Upon our answers to those questions must depend our view as to the wisdom and rightfulness of the judiciary possessing this power.

If we appeal to history, we find all these evil consequences following the lack of a tribunal clothed with just such judicial powers as our courts possess. The Magna Carta of England which, as already said, contained great declarations of human rights, failed for centuries to protect the liberties of the English people, because there was no independent and honest judiciary with power to enforce its provisions.

Time after time European monarchs have been compelled, through some sudden stress of circumstances, to solemnly promise to refrain from arbitrary action, but, when the stress had passed, they resumed their tyrannical conduct. The lesson of history is unless the power to maintain the principles of liberty is vested in some independent and disinterested tribunal liberty will be destroyed.

Mr. O'Brien is a leader of the Minnesota bar and a former justice of the Supreme Court of that state. The above article is taken, with special permission, from a book by Judge O'Brien entitled, "The Great Experiment," which has just been published by the Encyclopedia Press, New York City.

If we approve of a written constitution and further deem it wise that its provisions should not be set aside or ignored by the legislature or by any man or body of men except the people themselves in their sovereign capacity as citizens, we must approve of and have a tribunal which has power to say when a legislative or executive act or the act of an inferior court is contrary to the fundamental law.

The provisions of the Constitution are law. A statute passed by a legislature is law. The Constitution is the higher law to which the statute must conform. If the two conflict, there must be some tribunal with power to so declare. The legislature cannot do so, for it has enacted the conflicting statute, and is without power to construe law. The executive cannot, for he is without power to construe law. This leaves only the court to perform this function, and that department of government, being the one to which the construction of law has been confided, is the only department capable of making the decision.

That our courts are endowed with this power and that its exercise is necessary in a proper case, was decided at a very early day by the Supreme Court of the United States. In the opinion written by Chief Justice Marshall, it was said:

"So if a law be in opposition to the constitution; if both the law and the constitution apply to a particular case, so that the court must either decide that case conformably to the law, disregarding the constitution; or conformably to the constitution, disregarding the law; the court must determine which of these conflicting rules governs the case. This is of the very essence of judicial duty. ***

"The constitution declares 'that no bill of attainder or ex post facto law shall be passed.'

"If, however, such a bill should be passed, and a person should be prosecuted under it; must the court condemn to death those victims whom the constitution endeavors to preserve?

"'No person,' says the constitution, 'shall be convicted of treason unless on the testimony of two witnesses to

the same overt act, or on confession in open court."

"Here the language of the constitution is addressed especially to the courts. It prescribes, directly for them, a rule of evidence not to be departed from. If the legislature should change that rule, and declare *one* witness, or a confession *out* of court, sufficient for conviction, must the constitutional principle yield to the legislative act?"

"From these, and many other selections which might be made, it is apparent, that the framers of the constitution contemplated that instrument as a rule for the government of *courts*, as well as of the legislature."

If the Constitution, when construed and interpreted by the courts, is found not to be in accordance with the will of the people, it is their privilege and right to change it. In fact, this has often been done, for instance, an early decision of the Supreme Court of the United States held that suit could be brought against a State as against an individual. The people of the States considered this an infringement upon State sovereignty and the Federal Constitution was promptly amended so as to forbid such suits.

Only a few years ago the same court decided the particular form of the Federal income tax Congress attempted to impose was invalid, but in 1913 the Constitution was amended by the adoption of the Sixteenth Amendment, and a new and valid income tax law was enacted.

No one, and least of all the judges who have rendered these decisions, regarded such amendments as a slight or reflection upon the court. The court merely construed and declared the meaning of the law as it was written. Indeed, it has been the common practice for courts, in thus declaring the invalidity of a statute, to point out just what was necessary and could be done to render it valid.

Nor must it be thought that our courts have attempted to arrogate to themselves the right to pass upon the necessity or wisdom or utility of any law which the legislative department, in the exercise of its discretion might lawfully enact under its constitutional power.

A very long line of decisions has marked the boundaries beyond which no court passes. The fact that a law is new or novel, affords no ground for its rejection. The necessity for the law, its wisdom, its usefulness and the benefits to be derived from it, are all for the judgment and discretion of the legislature. A judge may think a law useless or foolish; he may think it unwise, and positively harmful, but unless it can be shown to be repugnant

to some specific provisions of the Constitution, the court must enforce it.

The courts do not, to the slightest extent, attempt to exercise a veto power, nor to interfere with the policy or discretion of the legislature. They only determine whether the statute is contrary to the Constitution, and, therefore, beyond the power confided to the legislature.

The Supreme Court of the United States has no general appellate jurisdiction from State courts. It has the right to review final decisions of a State court only in those cases in which a so-called Federal question is involved and was litigated—that is, cases in which there is drawn in question the Constitution, the laws, or a treaty of the United States.

There is one class of actions which, no matter where they are begun, seldom terminate without an appeal to that court. When legislation for the regulation and control of business is attacked, it is almost invariably claimed that it deprives those opposing it of liberty and property without due process of law. If the claim were true, the law thus attacked would violate the Fourteenth Amendment to the Constitution of the United States. Such a claim draws in question a right guaranteed by the Federal Constitution, and the Federal Supreme Court is the tribunal of last resort, with jurisdiction to pass upon the claim, whether it is a state law or an act of Congress, which is so attacked.

A mere statement of this fact shows the tremendous power and importance of that court. It is the final and authoritative exponent of our system of government; if we fail there, we fail everywhere. Of it an impartial observer said:

"The Supreme Court is the living voice of the Constitution—that is, of the will of the people expressed in the fundamental law they have enacted. It is, therefore, as some one has said, the conscience of the people, who have resolved to restrain themselves from hasty or unjust action by placing their representatives under the restriction of a permanent law. It is the guarantee of the minority, who, when threatened by the impatient vehemence of a majority, can appeal to this permanent law, finding the interpreter and enforcer thereof in a court set high above the assaults of faction."

The Court consists of a Chief Justice and eight Associate Justices. They are appointed for life, or, as it is expressed, during good behavior; their compensation cannot be reduced during their term of office. Ordinarily, the concurrence of five Justices is necessary before judgment is declared.

An appointment to the Supreme

Court is made by the President only after the most careful consideration, must be confirmed by the Senate and is naturally the highest honor which can come to an American lawyer.

Being thus appointed for life with a provision of the Constitution preventing a reduction in compensation, the Justices individually are, and the Court as a tribunal is, absolutely independent. Its character and power, and the wisdom of its decisions have aroused the admiration of the best statesmen of the world, and although during its long existence the power of impeachment has always been vested in Congress, no justice has ever been removed.

The history of the Court and the part it has taken in preserving life, liberty and property, is found in the thousands of decisions it has rendered, printed now in some two hundred and fifty volumes.

The principles of the Declaration of Independence and the enumeration of natural rights found in the Constitution, making up the American System of Government, are not, and never have been, mere oratorical phrases in that Court; they have never been thought obsolete by the officers of that great tribunal.

The claim of a humble citizen that he is about to be deprived of life, liberty or property without due process of law, receives the same consideration as does that of the most wealthy suitor, or of a great corporation.

For instance, a Chinese laundry-man in San Francisco appealed there, claiming he was, by an ordinance of the city, denied the equal protection of the law. His claim was sustained, the Court, in the course of the opinion, saying:

"When we consider the nature and the theory of our institutions of government, the principles upon which they are supposed to rest, and review the history of their development, we are constrained to conclude that they do not mean to leave room for the play and action of purely personal and arbitrary power. Sovereignty itself is, of course, not subject to law, for it is the author and source of law; but in our system, while sovereign powers are delegated to the agencies of a government sovereignty itself remains with the people, by whom and for whom all government exists and acts. * * *

"But the fundamental rights to life, liberty, and the pursuit of happiness, considered as individual possessions, are secured by those maxims of constitutional law which are the monuments showing the victorious progress of the race in securing to men the blessings of civilization under the reign of just and equal laws, so that, in the famous language of the Massachusetts Bill of

(Continued on page 20.)

Our Great Ports—Philadelphia

Comprehensive system of piers, docks, handling devices, railroads and marginal highway, is now being carried out to co-ordinate all into a magnificent port twenty miles long and of unlimited capacity

Written especially for AMERICAN INDUSTRIES

By **GEORGE F. SPROULE**

Director, Department of Wharves, Docks and Ferries of Philadelphia

THE City of Philadelphia, one of the principal manufacturing centers for heavy machinery and iron and steel products, and the second seaport in the country in point of tonnage of export and import trade, is located on the Delaware River, approximately 88 nautical miles from the ocean. By railroad it is situated about midway between New York and Baltimore—approximately 90 miles to the southward of the former and about the same distance to the northward of the latter—and is about 135 miles distant from Washington. It is the largest city in the State of Pennsylvania and the State's only seaport.

The city lies immediately above the junction of the Schuylkill river with the Delaware river and its central part occupies a peninsula about two miles in width between the two, a position on two deep water streams affording almost unlimited opportunity for commercial and shipping development. In extreme dimensions it measures about 10 miles from east to west by 16 miles from north to south, and covers a territory of about 130 square miles, or approximately 84,000 acres.

The water approach to the city is by way of the Delaware river and bay, the latter a commodious tidal estuary with natural, broad, deep water extending for 35 miles from the ocean to the entrance of the improved ship channel, from which point, a distance of 53 miles to Philadelphia, the channel is from 800 to 1,200 feet wide, and 35 feet deep at low tide. (The rise and fall of the tide in this district being approximately six feet). This depth is constantly maintained by dredges of the United States Government.

The river is excellently lighted from the sea to the mouth of the improved channel by powerful lights established in steel and concrete towers built along the edge of deep water in the bay, and from the entrance of the channel to the city, by gas buoys, and sets of shore range-lights located on the center lines of the various reaches of the channel, the whole forming a continuous guide to the mariner from one end of the channel to the other. More than 50 navigation lights are passed between the ocean capes and the city, an average



George F. Sproule

of more than one to each two miles of channel. The buoying for day use is equally extensive, and it can safely be said that no water approach to any great seaport in the world, is safer or easier of navigation than that to the port of Philadelphia.

Philadelphia's facilities for handling marine commerce consist briefly of some 267 wharves of various sizes for the accommodation of every character of vessel. There are 159 projecting piers. The waterfront terminals of three great trunk line railroads connect with tracks which extend over the entire American continent. Direct connection by regular lines of steamers sailing, in peace times, at fixed intervals, were had with London, Liverpool, Glasgow, Hamburg, Bremen, Antwerp, Rotterdam, Copenhagen, Genoa, Naples, Trieste, Calcutta, the West Indies, Central America and Panama, North Pacific and South American ports via the Isthmian canal, as well as nearly all the important domestic ports on the Atlantic and Pacific coasts and the Gulf of Mexico.

The administration of the port is under the jurisdiction of the Department of Wharves, Docks and Ferries, a branch of the city government, and the Commissioners of Navigation, a State Department. The Department of Wharves, Docks and Ferries has charge of the construction and opera-

tion of municipal wharves and other harbor facilities, and general supervision of all waterfront activities of either a public or private nature. The Commissioners of Navigation are charged with the policing of the harbor, the anchoring and the reporting of vessels, etc. The functions of the two bodies are coördinate in character, and many works of improvement are now under way under their respective supervision.

Philadelphia's total water frontage on the Delaware and Schuylkill rivers is about 34 miles, of which 20 miles are on the former and 14 on the latter stream. The most concentrated activities of the Port are centered along about six miles of waterfront on the Delaware River, extending from Greenwich Point about three miles south of Market Street, to Allegheny Avenue, Port Richmond, about three miles north of that street. Portions of the Schuylkill River, however, also handle a considerable traffic, and owing to the large exports of oil, a large percentage of the gross export tonnage of the Port originates on this stream. Altogether, about half of the City front is improved and the present wharves afford a total berthing space of 163,500 lineal feet, of which about 37,000 lineal feet of wharf frontage is capable of accommodating ships of heavy draft. This provides berthing accommodation for nearly 100 fair-sized ocean steamers, and a large number of smaller vessels.

The principal marine terminals of the Port are those owned by the City, consisting at this time of eight large well constructed piers, with four more in progress of erection (no mention being made in this connection of a score or more of small industrial wharves belonging to the municipality); the piers of the Pennsylvania Railroad, 15 in all; those of the Philadelphia and Reading Railroad, 23 in all; three piers belonging to the Baltimore & Ohio Railroad; three piers of the Independent Pier Company, and the bulkhead wharves of the Atlantic Refining Co., and the Gulf Refining Co. on the Schuylkill River, having between them about 4,800 feet of berthing space for the accommodation of large ships.

The steamship piers belonging to the municipality are located mainly at the ends of streets in the central section of the city, and are designated ordinarily by the names of the highways upon which they abut. The piers at Arch, Race and Chestnut Streets are used mainly for the accommodation of river and bay trade, and in a minor degree in the importation of tropical fruits.

The following is a description of the City piers constructed; in operation, and under contract:

Municipal Pier No. 19, North. Located on the Delaware River between Vine and Callowhill Streets. This pier, a double deck structure, is built of timber pile, and concrete substructure, and is 166 feet wide by 566 feet long, with a facade of copper on the inshore and outshore ends, and is connected with Belt Line Railroad facilities.

Municipal Pier No. 16, South. Located on the Delaware River, at the foot of Dock Street. This pier is of the same design as Municipal Pier No. 19, North, with the exception that it is smaller, being 120 feet wide by 580 feet long, and is only a single deck structure. In the construction of the superstructure, concrete was more extensively used, the inshore and outshore ends of the pier being of this material. It is connected with Belt Line Railroad facilities.

Municipal Piers Nos. 38 and 40, South. Located on the Delaware River, at Queen and Catharine Streets, and known as the Southwark Group. They are each 180 feet wide by 550 feet long, connected together with 30 feet wide bulkhead sheds along Delaware Avenue, and flanked with docks each 200 feet wide. These piers are of the same general design as Municipal Pier No. 19, North Wharves, and have on each a two-deck steel and concrete superstructure, the outshore and inshore ends being of concrete. Both piers are connected with Belt Line Railroad facilities.

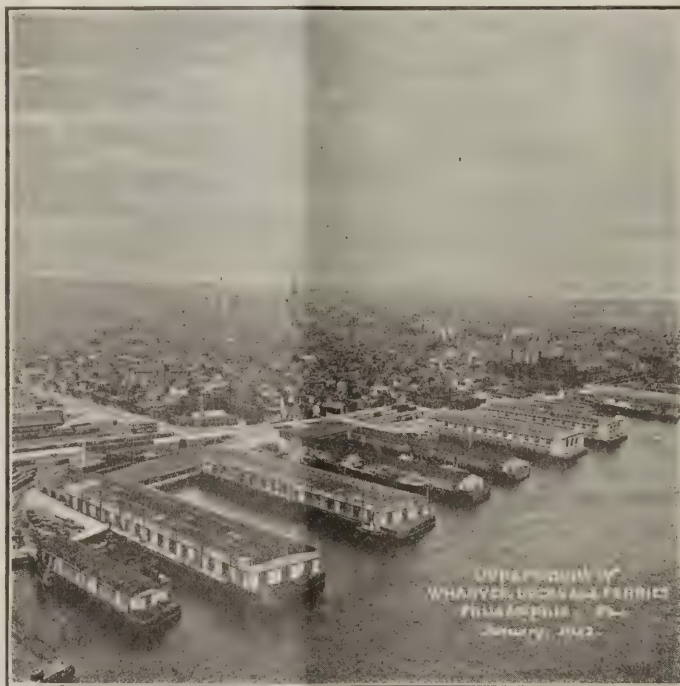
In the southern section of the City, it is the Department's intention to construct a group of eight piers to be known as the Moyamensing Group, averaging 300 feet in width by more than 1,000 feet in length, ranging in dimensions from 250 feet by 900 feet for the smallest of them, to 300 feet by 1,200 feet for the largest. These piers will be two stories in height with three-

story office buildings and bulkhead sheds at their inshore ends.

Municipal Pier No. 78, South Wharves. The first of this group was completed in the latter part of December, 1918, and is 250 feet wide by 900 feet long, with 300 feet dock space flanking both sides. This is a solid fill pier with a steel and concrete superstructure, and connected with Belt Line Railroad facilities.

Municipal Pier No. 9, North. Located on the Delaware River at the foot of Cherry Street. This pier is 100 feet wide by 535 feet long, and is of pile and concrete construction—of similar design to Municipal Pier No. 19, North Wharves, with a one-story steel and concrete substructure, and is connected with Belt Line Railroad facilities.

Municipal Pier No. 30, South. Located on the Delaware River, at the foot of Kenilworth Street. This pier



General view of Dock and Pier System

is 120 feet wide by 540 feet long. The substructure is of timber, pile and concrete construction; the superstructure a one-story steel and concrete shed, and is connected with Belt Line Railroad facilities.

Municipal Pier No. 4, South. Located on the Delaware River at the foot of Chestnut Street. This pier is 553 feet long and 80 feet wide. The substructure is of timber pile and concrete with a two-deck superstructure of steel and brick. The first deck of this pier is used for steamboat purposes and the second deck is used for the offices of the Department of Wharves, Docks and Ferries.

Municipal Piers Nos. 82 and 84, South. Part of the Moyamensing Group, the substructures of which were

completed in the latter part of the year 1921, each being 300 feet wide by 900 feet long, with 300 feet dock space flanking each pier. The contract for Pier 84—superstructure has been awarded and the work is now approximately 25 per cent complete, and the contract for the construction of the superstructure of Pier No. 82, South, will be awarded early in the year 1923. Both these piers are connected with Belt Line Railroad facilities.

Municipal Piers Nos. 3 and 5, North. Girard Group. Located between Market and Arch Streets, on the Delaware River. These piers are approximately 185 feet wide by 546 feet long, and 185 feet wide by 531 feet long, respectively. The substructures are of timber pile and concrete; the superstructures are to be two-story steel and concrete sheds. These piers will be completed and ready for occupancy, Pier No. 3, April 1, 1923, and Pier No. 5, January 1, 1924. Both piers will be connected with Belt Line Railroad facilities.

U. S. Government Terminals. Foot of Oregon Avenue; constructed for the use of the Quartermaster Department during the war and are now in use as an exportation center for flour and are as follows:

Pier No. 96, is 290 feet wide by 1,350 feet long and consists of an open concrete deck only, with four lines of railroad tracks—two surface tracks being on the north side of the pier and two depressed tracks in the center. The floor loading for this deck is 500 pounds per square foot. Originally the plans for this pier included two three-story reinforced concrete warehouse

superstructures, similar to those built on Pier 98 and described below, but were not constructed owing to the desire of the Government to reduce the cost of this work after the signing of the Armistice.

Pier No. 98, is 290 feet wide by 1,500 feet long, with two three-story reinforced concrete warehouse superstructures, each building being approximately 90 feet by 1,500 feet in size. The main deck floor has a loading capacity of 500 pounds per square foot. Each building is divided by means of a fire wall into five sections, each 300 feet long and equipped with one freight elevator, with provision made for the installation of one additional elevator and also one installation of spiral chutes, openings being left in the floor

for this purpose. The buildings are equipped with automatic sprinklers under a dry system throughout. The upper two floors are heated to a temperature of 44 degrees, the lower or deck floor not being heated. There are four railroad tracks leading on to this pier, two surface tracks on the north side of the structure and two depressed tracks in the center court between the two buildings. Provision has been made in the construction for the future installation of gantry cranes on the north side of the pier of 2½-ton capacity, a 5-ton gantry crane on the roof spanning the court between the two buildings, and movable whip masts on the south side of the south building.

Pier No. 100, is 60 feet wide and approximately 800 feet long, upon which are three lines of surface railroad tracks and provision made for the installation of a 40-ton gantry crane. The original thought of this pier was for handling very heavy ordnance, locomotives and machinery of this type direct from tracks to vessels.

The slips, three in number, are approximately 144 feet wide between Piers Nos. 94 and 96; 250 feet wide between Piers Nos. 96 and 98; and 211 feet wide between Piers Nos. 98 and 100.

Along Delaware Avenue—the marginal street at the head of the docks—are three open-deck bulkhead wharves, 40 feet in width, with concrete retaining wall facing the slips. A bulkhead retaining wall of the same type is also built along the adjacent property to the north, owned by the Pennsylvania Salt Manufacturing Company.

In connection with the Terminal, but across Delaware Avenue and connected to the piers by means of a reinforced concrete tunnel, about 10 feet by 6 feet in size, is a power house equipped with 2,000 H. P. boilers for heating purposes and for future power development, if so desired. Also immediately adjacent to the power house is one 150,000-gallon tank for fire protection pur-



A Philadelphia Municipal Pier

poses and five 200,000-gallon wooden tanks for storage purposes.

To the west of the main Terminal is a tract of approximately 140 acres of land, of which the Government has control, and which has been filled to an average depth of 8 feet by dredging from the slips on this operation. This property was originally laid out as an open storage yard with railroad tracks in the same. The storage yard, however, was abandoned immediately after the signing of the Armistice, owing to the desire of the Government to stop expenditures of money for war purposes. This property will be available for manufacturing sites or other purposes as might be desired.

The Independent Pier Company in the transatlantic trade operates three piers, located between South and Catherine Streets, South Delaware Wharves, and is connected with Belt Line Railroad facilities.

The Merchants' and Miners' Transportation Company owns and operates coastwise terminals, with three piers. The remainder of the waterfront is

developed in connection with various manufacturing enterprises and as these wharves are used for purposes in connection with the industrial establishments owning them and are not generally available for public use, no special mention of them will be made in this category, except in the case of those belonging to the large shipyards which have played so large a part in the development of both Philadelphia and the nation's commerce. Two of the largest ship yards on the American continent are located in the heart of the port, within one mile of each other, one of them, that of the William Cramp & Sons Ship & Engine Building Co., on the Philadelphia side of the river, and the other, the New York Ship Building Co., on the Camden or New Jersey side. These two important establishments each employ several thousand workmen.

The main Pennsylvania Railroad steamship terminals located between Christian and Reed Streets, South Wharves, consist of five covered piers and one open pier for the use of regular passenger and freight steamers, both in the transatlantic and coastwise trade. An immigration station is maintained by the railroad at this terminal for the use of the lines berthing at this point. The company's coal terminals, consisting of three piers, are located at Greenwich Point, South Wharves. All of these are provided with car-dumping trestles for loading bunker and cargo coal, except one, upon which a mechanical car-dumping plant is installed. The loading capacity of this dumper is about 25 cars, or approximately 1,200 tons per hour. At Girard Point, on the north bank of the Schuylkill River near its junction with the Delaware, four large piers,



Piers at the South Delaware Wharves

two covered and two uncovered ones, are maintained by the company for handling ore, grain, cement and other heavy bulk cargoes. Upon one of these piers mechanical ore unloaders of 800 tons per hour capacity are installed, and two others are appurtenant to two large grain elevators with a storage capacity of 1,000,000 bushels each, and a total loading capacity of about 100,000 bushels per hour. All of these piers have direct rail connections both to the company's own lines and to those of the Belt Line Railroad.

The Baltimore and Ohio Railroad operates at the present time—its main terminal—the south half of Municipal Pier No. 78, South Wharves and Pier No. 24, South, as general cargo piers.

The Philadelphia and Reading Railroad's general cargo import piers are located between Callowhill and Noble Streets, North Delaware Wharves, and its export piers, for the same class of cargo, between Cambria Street and Allegheny Avenue, North Wharves, this latter locality being known as Port Richmond. The import piers at Noble Street consist of three covered wharves, one of these being a two-story pier with railroad tracks in both floors. The export piers at Port Richmond are six in number, four covered and two uncovered.

Ranking in importance next to these private yards, from a shipbuilding point of view, is the Philadelphia Navy Yard of the United States Government, situated on League Island in the extreme southern end of the City, just at the junction of the Schuylkill with the Delaware River. This establishment is located on a reservation containing more than 900 acres, and affords employment for some 6,000 to 7,500 men. It has approximately $4\frac{1}{2}$ miles of deep waterfront capable of development for the accommodation of large ships, on which frontage there are already provided piers and bulkheads, at which may be berthed fully 120 vessels. This is the only fresh water navy yard in the country and is now the Navy's main repair yard and reserve station for vessels in ordinary.

The excellence of Philadelphia's railroad facilities along her main waterfront can hardly be overstated, and place her in a position unique among Atlantic ports. Three great continental trunk line systems, the Pennsylvania Railroad, the Philadelphia and Reading Railroad, and the Baltimore & Ohio Railroad maintain well-equipped marine terminals within a few miles of the heart of the City, at which ships of large size can dock and unload with safety and dispatch.

In addition, the main Delaware River waterfront is served by the Philadelphia Belt Line Railroad, a quasi-



Grain elevator and railroad terminal at Girard Point

public corporation, by means of whose facilities occupants of any of the public or private wharves in this section of the City can obtain direct car service. This is an exceedingly valuable privilege. The importance of this privilege to ship owners and operators and to large shippers, can scarcely be over-estimated. Practically all of the steamship wharves are provided with railroad tracks running on them for nearly their whole length, usually in sunken pits which bring the car floors level with the pier deck and greatly facilitate the easy and economical transfer of freight between vessels and cars and cars and vessels.

In addition to the harbor facilities described, extensive improvements are planned by both the municipality and the several railroad corporations having terminal wharves and yards on the Philadelphia waterfront. These contemplate the construction of a dozen or more modern, well-equipped, fireproof, two-story piers, of greater size than any now in the port, the establishment of new, large car storage and classification yards in the Greenwich section, near the southern end of the main Delaware River front, and the extension of belt line railroad tracks and connections along the waterfront.

During the interval from the year 1907 to 1922, Delaware Avenue has been widened to its full width of 150 feet, and now extends from Montgomery Avenue to Snyder Avenue, a distance of about 4.0 miles. This is without doubt the widest and best marginal roadway in any of the ports on the Atlantic Coast.

The work of grading, paving and otherwise improving Delaware Avenue from Snyder Avenue south to Bigler Street, is now in progress.

Councils, by an ordinance of July 27, 1917, authorized the revision of the lines and grades of Delaware Avenue, from Westmoreland Street to Buckius Street, and the placing of an extension of Delaware Avenue on the plan, from Westmoreland Street, to Rich-

mond Street; also, by an ordinance approved August 17, 1917, the placing of Delaware Avenue on the plan by widening Richmond Street, on the northwest side from Cumberland Street to Allegheny Avenue, was authorized.

The preparation of the necessary City plans covering these sections is now in progress, and when they are finished and finally confirmed by the Board of Surveyor, will complete the plans for the development of Delaware Avenue, from Greenwich Coal Piers, at the southern end of the city to Torresdale, near the extreme northern boundary, a distance of about 20 miles, and when the physical work is completed, will provide for a marginal street along the entire Delaware River front, varying in width from 150 feet to 250 feet, and will be sufficient to accommodate not only the Belt Line Railroad tracks, which will probably be laid in it, but also the highway traffic to and from the waterfront.

AMERICANS AT LEIPSIK FAIR

American visitors at the Leipsic Fair, although they have been less in evidence than at previous fairs because of the uncertainty caused by the pending American tariff, have expressed themselves as well satisfied with the exposition. Many of them report that they have established new connections and obtained bargains in desired articles. The number of visitors from the United States is expected to grow from year to year.

On August 29 the total number of visitors recorded reached the unprecedented figure of 130,000, who had been conveyed to the City of Leipsic by forty-four special trains, namely, thirty-five from German cities, three from Austria and six from other foreign countries, apart from the regular scheduled trains, which had been greatly increased in the number of cars.

The total number of exhibitors reached almost 13,000, among whom there were about 2,000 exhibitors for

the technical fair. This number exceeds the one for the spring fair by about 250.

Of great interest were the exhibitions of manufacturers of other nationalities than German, viz., those of German-Austria, Czecho-Slovakia, Switzerland and Russia.

Actual business transactions still were comparatively few in number for the reasons stated, viz.: the uncertainty of the rates of exchange, making it impossible to quote firm prices until lately, when the dollar seemed to have settled. This somewhat restored confidence on the part of the buyers and led to a revival of buying during the remainder of the fair, but even so it was noticeable that most visitors had been induced to come to Leipsic rather in search of new business connections than for the purpose of actually making purchases.

While reports from different sources are contradictory, the very high-flung expectations of most exhibitors to book big orders were only partly fulfilled. The business, which had opened with such a rush, was decidedly chilled by the wild fluctuation of the dollar. Exceptions were the fairs for moving pictures and photographic instruments and supplies, for fancy goods, celluloid goods and small wares. In glassware, leather, shoes and supplies, hardware and cutlery and especially in the various technical industries the exhibitors were well satisfied. On the other hand, expectations of the manufacturers of toys, Christmas tree decorations, small metal wares, china and crockery, as well as books and paper, were only partly fulfilled by the results of the fair.

CREDIT LETTER FORMS

Members of the National Association of Manufacturers are already aware of the movement initiated by the National Foreign Trade Council, developed by the New York Bankers Commercial Credit Conference and completed by the American Acceptance Council, towards the adoption of standard forms of commercial letters of credit with the view of preventing the confusion and litigation which the lack of standard bank practice and general ignorance of the precise meaning of many dissimilar forms of commercial credit instruments have been producing during the past.

The forms have been prepared covering the following subjects: "Advice of Authority to Pay"; "Irrevocable Credit"; "Correspondent's Irrevocable Credit"; and "Confirmed Irrevocable Credit." On the backs of the forms are printed provisions dealing with bills of lading, insurance

papers, partial shipment, prompt shipment, export quotations, etc. They are obtainable from the American Acceptance Council. The movement has been supported by the Foreign Trade Department of the National Association of Manufacturers.

AGRONOMIST GOES TO ROME

Prof. Asher Hobson, of the Department of Agriculture, has been made United States member of the permanent committee of the International Institute of Agriculture at Rome, vice William G. Stevenson, resigned.

To Much Oil Closes Refineries

THE Sinclair Crude Oil Purchasing Company recently made several cuts in the price of its crude oil.

"Too much crude oil is being produced at the present time," said Harry E. Sinclair, chairman of the Sinclair Consolidated Oil Corporation.

"In a personal inspection of all of the important fields of the country I was impressed with the fact in some places entire fields are practically shut down; others are partially shut down and new fields have been discovered which are adding many thousands of barrels daily to storage stocks. Actual stocks of crude oil have been increased 100,000,000 barrels in about a year. We have been storing crude oil steadily and will continue to do all we consistently can to take care of the situation.

"Many producers apparently have been misled by the fact that the demand for gasoline is increasing so rapidly. In my opinion this summer will see the greatest gasoline consumption in the history of the country, but gasoline cannot carry the full burden. A few months ago more than 150 refineries were shut down, principally because they couldn't operate at a profit, and others were kept running at a loss. The larger movement of gasoline and a moderate increase in price encouraged many of these refineries to resume operations. It is unfortunate for the country that conditions did not permit a larger accumulation of gasoline reserves during the winter months, because they will be needed badly before the summer season is over. There will doubtless be a further increase in refinery operations, but this in itself cannot make much headway against the present flood of crude oil."

Mr. Sinclair was asked whether the expected decrease in output of Mexican fields on account of salt water would not balance the present excess production in this country.

"Not immediately," he assumed,

"and probably not this year. The appearance of salt water in the Toteco-Cerro Azul field does not mean that oil exports out of Mexico will stop next week or next month. Millions of barrels of oil will still be produced in Mexico. But if there was a complete stoppage of oil exports from that country, the production in the United States should take care of present demands. No one knows how long that condition will last, but we know that it exists to-day and must be met."

The Lamp, official organ of the Standard Oil Company, in an article headed "Are Gasoline Prices Too High?" says: "Crude oil yields a fairly definite ratio of different products, and it is not possible to vary this greatly to meet an increased call for any one of them. A forty-two gallon barrel of petroleum from the mid-Continent field, for example, run through a complete refinery as distinguished from a skimming plant, yields approximately ten gallons of gasoline, eight of refined oil, three of lubricating oil, one of wax, twelve of gas oil and six of fuel oil, with a loss of two gallons. Theoretically, the cost of crude, its transportation, refining and marketing expenses, provision for amortization and allowance for profit should be allocated among the six products listed, so as to let each bear its proper share. When one of these products does not find a market the refiner must increase the proportion borne by the others.

"Recent increases in gasoline prices were made by all companies to substantially the same degree and at about the same time, not through any agreement or understanding, but because the universal demand carried up prices asked by the primary market, which is the small refiner. At the present level for gasoline, which many people believe to be excessive, there is not fair profit in running a barrel of crude oil. The industry hopes that the demand for other products than gasoline will improve so that the cost of refining will be more evenly distributed. An alternative is the further development of processes to increase the gasoline yield."

Bits of News

About Men in Industry

The largest copper wire inquiry ever received in this country came recently from Japan, according to an official of the Anaconda Copper Company.

"We received an inquiry from Japan," the official said, "for 2,500,000 pounds of copper strand for the Tokio Electric Company. This is the largest foreign inquiry for copper wire ever received in this country. The contract has not yet been awarded, but it is unlikely that an American firm will obtain the order because Japanese buyers must pay a 30 per cent *ad valorem* import duty on copper.

"Approximately 12,000 miners, smelter men and other employes of copper mining companies in Montana were given an increase of fifty cents a day in wages. The new scale became effective recently. Miners will receive \$4.75 a day."

The blast furnace of the A. M. Byers Company in Girard, O., was lighted a fortnight ago, after a three-months' suspension. Its resumption will mean further improvement in the operation of the Byers puddling furnaces, half of which are now working. Of the forty-seven blast furnaces in this district, twenty-four are now in operation. Their capacity is 65 per cent of the rated capacity of the district.

The State-City Employment Bureau announced a shortage of 500 unskilled laborers here.

The blast furnace of the Struthers Furnace Company at Struthers, O., will resume on October 2, twenty months to the day from the time of its shutdown, it was announced recently.

The plate mill at Pottstown, Pa., formerly owned by the Nagle Steel Company has resumed in double shift and in three weeks the mill at Seyfert will start. Announcement also was made by the Reading Iron Company that No. 1 puddle mill of its Pottstown plant, idle for almost two years would resume October 2. About 125 men will be given employment.

No. 1 blast furnace of the Tennessee Coal, Iron and Railroad Company, at Birmingham, Ala., the largest single

blast furnace in Alabama, will be blown in soon. Its capacity is 550 tons a day. The Tennessee company then will have ten furnaces in operation in the district.

Rubber footwear factories are being operated day and night to fill orders for next winter, says the *India Rubber Review*. A considerable part of the activity is due to demand for rubber boots for farmers in the West and Northwest, following encouraging reports regarding crops. The orders for rubber footwear which the factories are now producing were obtained last January. When the lines were first opened, the first of the year, a reduction in prices of 5 to 10 per cent was made. As a result of the revisions, women's rubbers for street wear will probably be retailed at \$1 to \$1.25 a pair, men's lines at \$1.50 to \$1.75 and rubber footwear at \$5, according to producers' representatives. The manufacturers are watching cotton goods developments with considerable interest, due to the fact that they buy considerable cottons for their output. Tennis footwear is in encouraging demand now in this country.

BUSINESS BETTER IN SOUTH

"Conditions in our part of the country have shown a great improvement recently, particularly the lumber and cotton situation," reported Elbert L. DuKate of Biloxi, Miss., recently at the Hotel Astor.

"The South American trade is picking up and we are shipping quantities of lumber, especially to that country. Mississippi has gone into live stock raising the last five or six years, and is getting to be a leader in creamery products, especially high-grade butter. The farmer is no longer depending on one product for his sustenance, and this should mean better conditions for the agricultural part of the State."

Marine hardware will be handled and manufactured in Baltimore, Md., by Washington H. Neely, Ernest Neely and Joseph W. Neely, who have chartered the J. W. Neely Company.

Asa G. Candler, of Atlanta, Ga.; J. I. Westervelt, of Greenville, and associates have organized the City Hotel Company, to build a \$500,000 hotel of fireproof construction at Greenville, S. C.

Although no formal announcement has been made, it is learned that J. H. W. Steele, of the Steele Steamship Company, has retired from the presidency of the line, and that the management now rests in the hands of his brother, Semmes Steele, of Galveston,

and Neal M. Leach, of New Orleans.

J. H. W. Steele will continue as chairman of the board of directors, and as the head of the other large interests which bear his name. Holding other large interests in Texas, Louisiana and on the Pacific Coast the relieving of Mr. Steele from active executive duties will permit him to give more time to these affairs. The Steele Steamship Company, one of the largest organizations operating out of southern ports, is well known the world over. Semmes Steele has been associated with his brother for many years as has Mr. Leach, the former for several years during the war and immediately after, being at the head of the New York branch of the company.

The Federal Telegraph Company of Delaware is soon to be launched to take over the \$13,000,000 contract with the Chinese government, recently secured by the Federal Telegraph Company of California. Owen D. Young, president of the General Electric Company, will be chairman of the board, and R. P. Schwerin, head of the California corporation, will be president.

The new company will be capitalized at \$9,500,000, divided into \$3,500,000 preferred stock and \$6,000,000 common. It was announced that the Radio Corporation of America will buy all of the new preferred stock, and of the common stock the Federal Telegraph Company of California will own 40 per cent and the Radio Corporation 60 per cent.

Profits from the Chinese contract are estimated at \$6,500,000, in addition to a percentage of the net earnings of the stations for a long term of years.

The contract calls for the construction of four wireless stations in China, the one in Shanghai to be larger than any now in existence in this country. Completion of the station will mean direct communication between the United States and China.

The force at the Drifton, Pa. shops of the Lehigh Valley Coal Company, is being increased daily and soon all departments will be at capacity, following a five months' suspension due to the idleness of the coal mines.

The Economy Fuse & Mfg. Co. has removed its Detroit, Michigan, Sales Office from 1012 Majestic Building to 1528 First National Bank Building.

Acquisition of the Morris Canal from the Lehigh Valley Railroad and the construction on its bed of a speedway for motor trucks was advocated in a report made recently by the Jersey City Commission to the State Morris Canal Commission.

Business Brightens For The Fall

Mid-month review of conditions made by the Irving National Bank shows that the general situation has taken on a buoyant aspect for the winter with bright prospects for a good volume of trade

GOOD crops and a settlement of the strikes have given buoyancy to the third quarter of the year and in consequence prospects are bright for a good volume of trade during the coming season. With 600,000 coal miners and 400,000 railway shopmen back at work and the protracted struggle of the textile workers in New England at last ended, the industrial outlook is now better than at any time since the war. The outcome of the strike in the coal fields was due to the special nature of the business, to strict regulations of Illinois and Pennsylvania and some other states against engaging outside labor, and to the defection of some 40,000 non-union men in western Pennsylvania. Public exasperation was increasing as winter drew nearer and signs multiplied that creeping paralysis was beginning to overcome business activities. The continued upward movement of security values recently was evidence that speculative opinion viewed the future with increasing confidence. In the present month, representative bonds and stocks have touched new high levels for this year.

The value of imports in seven months this year has been \$172,000,000 in excess of the total for the same period of 1921, a development possibly in anticipation of the new tariff. The growth of imports may also be interpreted as heralding forthcoming activity in domestic productivity. Imports of crude materials for use in manufacturing were \$586,658,000 for the seven months ended July, 1922, compared with \$497,207,000 for the corresponding period of 1921. Imports of manufactures for further use in manufacturing totaled \$279,839,000 for the seven months of 1922 against \$202,428,000 last year.

The United States Steel Corporation's twenty per cent increase in the wages of common labor of from 30 to 36 cents an hour, effective September 1, together with corresponding adjustments for other workers, was followed by a similar increase on the part of independents. The present schedule for common labor compares with about 19 cents an hour just before the war. The

advance thus puts wages in this industry about 80 per cent above the pre-war level. This action within the biggest open shop industry in the United States occurred while the railway and coal mining strikes were in full swing. The increase involves about 156,000 day laborers in the employ of the United States Steel Corporation. The new rates undoubtedly reflect greater competition for unskilled labor evidenced in several industries for the last two or three months. The facts mentioned are in part attributable to the law restricting immigration, since it is now impossible to recruit at will from this source.

August was the first month in the present year that industrial employment did not show an increase over the preceding month. On August 31, the 1,428 firms which report to the Department of Labor showed a total of 1,728,424 persons on the payrolls as compared with 1,729,805 the previous month. With this one exception, the August total was the largest since these reports began to be compiled in January, 1921.

The average weekly wages of factory workers in New York State decreased from \$24.91 in June, the high point for the present year to \$24.77 in July, contrasting with \$12.70 in June, 1914. The mid-year decline did not indicate any cut in hourly rates of pay but merely reflected slowing up of manufacturing caused by fuel or transportation difficulties.

The average rents of wage earners' houses in the United States did not change between March and July, 1922. There were some small decreases yet the increases were more numerous than in preceding months and occurred in important industrial cities. Most communities showed no change. According to the National Industrial Conference Board, the average rents paid by wage earners were 65 per cent higher in July, 1922, than at the outbreak of the war. The cost of living has remained virtually unchanged since February and is 56.6 per cent higher than in July, 1914. In computing the index of living costs, the Board assumed that the average working family spends 43.1 per cent of its budget for food; 17.7 per cent for shelter; 13.2 for

clothing; 5.6 per cent for fuel and light and 20.4 per cent for sundries.

The domestic wholesale price situation in general gives evidence of stability, although considerable discrepancies exist between individual price levels. The Bureau of Labor Statistics report showed a rise of $3\frac{1}{3}$ per cent for July prices, but this change seems to be due largely to the importance assigned to fuel in the statistical weighing system used. Bradstreet's index, computed by adding the wholesale prices per pound of 96 commodities, amounted on September 1, to \$12,0793, a total almost identical with that for August 1. Dun's index, compiled in a different way, amounted to \$172.479, as against \$173.558 the preceding month. The seasonal decline in the prices of farm produce has about offset the gains shown in coal, iron and steel.

During August, because of the coal and railway strikes, iron and steel production slumped sharply. Pig-iron production, according to the *Iron Age*, fell off 25 per cent from July and the output, 1,816,170 tons, was less than during any month since February, although nearly twice as much as in August, 1921, a time of extreme depression. The output of steel ingots was likewise below each month since February, amounting to only 2,214,582 tons, and production fell to about 58 per cent of capacity. It is encouraging, on the other hand, to note that the unfilled orders of the United States Steel Corporation rose from 5,776,161 tons at the end of July to 5,950,105 tons on August 31, the largest total since March, 1921.

On October 1, the Corporation started to charge \$43 a ton for steel rails, a rise of \$3.00. Iron and steel prices have risen since March. The weekly index figures of the market prices of 14 representative products compiled by the *Iron Trade Review* touched \$32.80 in that month and has since advanced virtually without interruption to the highest point of the year, namely, \$43.80 for the week ending September 13. That this rise is attributable mainly to domestic demand is partly indicated by the fact that the July exports of iron and steel, according to the *Iron Age*, were the lightest since December, 1921.

(Continued from page 12.)

Rights, the government of the commonwealth 'may be a government of laws and not of men.' For, the very idea that one man may be compelled to hold his life, or the means of living, or any material right essential to the enjoyment of life, at the mere will of another, seems to be intolerable in any country where freedom prevails, as being the essence of slavery itself."

During the Civil War one Milligan, was arrested under the military authority, tried by Court Martial, which allows of no trial by jury, and was condemned to death. He obtained a writ of habeas corpus and the legality of his trial and judgment came before the Supreme Court. His conviction was set aside and amongst other things the Court said:

" * * * it is the birthright of every American citizen when charged with crime, to be tried and punished according to law. * * * By the protection of the law human rights are secured; withdraw that protection, and they are at the mercy of wicked rulers, or the clamor of an excited people. * * * The founders of our government were familiar with the history of that struggle; and secured in a written constitution every right which the people had wrested from power during a contest of ages. * * * Those applicable to this case are found in that clause of the original Constitution which says 'that the trial of all crimes, except in case of impeachment, shall be by jury;' * * * and * * * guarantees the right of trial by jury, in such manner and with such regulations that with upright judges, impartial juries and an able bar, the innocent will be saved and the guilty punished. * * *

"Time has proven the discernment of our ancestors; * * * The history of the world had taught them that what was done in the past might be attempted in the future. The Constitution of the United States is a law for rulers and people, equally in war and in peace, and covers with the shield of its protection all classes of men, at all times, and under all circumstances."

In another case the House of Representatives in Congress sentenced one Kilbourne to be committed for contempt in refusing to answer certain questions. This was held to be beyond the power of the House. The Court said:

"It is believed to be one of the chief merits of the American system of written constitutional law, that all the powers entrusted to governments, either State or national, are divided into three grand departments, the executive, the legislative, and the judicial. That the functions appropriate to each of these branches of government shall be vested

in a separate body of public servants, and that the perfection of the system requires that the lines which separate and divide these departments shall be broadly and clearly defined. It is also essential to the successful working of this system that the persons entrusted with power in any one of these branches shall not be permitted to encroach upon the powers confided to the others, but that each shall by the law of its creation be limited to the exercise of the powers appropriate to its own department and no other."

It cannot be too greatly emphasized that the Supreme Court of the United States has not stood in the way of progressive legislation. It has been the great exponent of the police power. From its decisions we have learned how great that power is, and that laws for the regulation of business, both big and little, for improving labor conditions, for conserving the public health by pure food laws, for protecting the weak and ignorant against the strong and cunning, are valid and binding under the Constitution.

Had there been no supreme tribunal to finally interpret the Constitution and give it effect, we would have as many different constructions as there are states. We would have had irreconcilable conflicts between Congress and state legislatures, between the Federal and state governments. We would

have had chaos instead of law. Without this tribunal, we never could have become a nation.

Whenever Congress has exceeded its authority and usurped a power reserved to the individual States, the Court has called it back to its legitimate domain. When the executive department attempted arbitrary action, its proceedings were arrested. When States have encroached upon the powers granted to the Federal Government or attempted to deprive any person of life, liberty or property without due process of law, the acts have been set aside.

This is what is meant by "a government of laws and not of men;" that a reasonable and definite rule of conduct is prescribed by law, which is binding upon all alike. It is the opposite of class rule and arbitrary action.

If, during the Court's existence of nearly a century and a half, no mistakes had been made, we would be compelled to think it not a human, but a divine tribunal.

But though only human, it has been marvelously wise. Proceeding calmly and deliberately, deciding each case as it arose, refraining from attempting to make hard and fast rules for a people whose manner of life and economic conditions were rapidly changing, has been the fountain-head of the best thought of America, and the bulwark of our Government.

Mr. Vaucrain Optimistic

THE United States is on a solid business foundation and is already started on an era of great prosperity, according to Samuel M. Vaucrain, president of the Baldwin Locomotive Works. Mr. Vaucrain says that there will probably be an acute shortage of labor and a shortage of locomotives and coal cars. "There will be too much coal and grain for the present supply of cars and there will be more cars to pull than engines to pull them," he said.

Mr. Vaucrain believes in hard work as the best and quickest way to business success and financial independence. He says that not long ago he was asked for a recipe for getting rich and that he replied as follows: "Work so hard that you will not have time to spend that which you earn."

"Europe is not going to ruin," Mr. Vaucrain said, "because the people are starting to work their way from under the debts of the war. Anyone who goes out among the people of our own country and talks to them will wonder who started the story that the nation was not prosperous. It is amazingly prosperous and no comparison can be

drawn between conditions now and before the war.

"What we will have with us now," said Mr. Vaucrain, "is a gradual, solid increase in general business. There is business waiting everywhere, but you have to know what it looks like when you see it. There is plenty of money and the people have confidence in the future because they are using their money as a basis for credit by buying many articles on instalments."

Mr. Vaucrain said the labor organizations of the country were getting in line for a fall because of the solid opposition of the farmers and the mass of the unorganized working people. He declared that the laboring men were tired of being bossed by their leaders and were asserting their authority as individuals. He cited that in the West many of the railroad men left one road on strike and went to another road and hired out as non-union men. The scarcity of common labor, Mr. Vaucrain said, will get more acute as the winter draws on. He pointed out that under the present immigration laws common labor is going to be scarcer and scarcer.

Romances Of Industry—Radium

Discovery and production of this metal attended by an almost unparalleled patient effort from its finding in piles of waste down to present day mining when tons must be worked to obtain a speck

Written especially for AMERICAN INDUSTRIES

By JAMES C. GRAY

President, Standard Chemical Company

BECAUSE in the explanation of the basic facts about radium, science has broken into fundamentally new ground, every educated person will find it as interesting as instructive to know the main reasons why this material has put the whole question of the evolution and the destiny of the world in a new light. This explanation makes the story of how the United States is the foremost producer of radium in the world one of the notable chapters in the record of American industries.

In the scientific world, "energy" is the word now used to designate what is popularly called "force," that is the power of doing work or what may be converted into work. Human beings and beasts of burden once did the heavy work of this world. The forces of nature, such as the wind, the waterfall and fire were of no service to man because of his ignorance as to how to use them. Within the last century, however, the progress man has made in controlling the inanimate energy in fuel alone, has far more than dwarfed the former power of what is known as "brute force."

With radium, Madame Curie and her husband compelled the attention of the scientific world to an entirely new and fundamental view of energy. The Curies proved that every three-quarters of an hour there comes from radium sufficient heat to change a quantity of water equal in weight to the radium from freezing to boiling.

This is the fact that makes radium the most interesting and the most important material in the world.

Heat means energy, power, work. Heat and light may be obtained in many ways but it is a new thing to find it being sent forth from a substance as it is by radium, year in and year out, without any apparent intermission or diminution and without being in any appreciable way consumed or altered.

What is radium? It is a metal. It is one of the ninety odd elements in the earth, and it is about the heaviest of them. In its pure state it looks much like silver.

How does radium differ from the other chemical elements? And how



James C. Gray

has it the remarkable power that makes it distinctive? The general reader has heard and perhaps used the expression, "smash it to atoms." That is a popular recognition of the fact that for over a hundred years, the scientists of the world have taught and believed that the atoms of matter are the most minute particles into which materials may be resolved. Before the discovery of radium the chemical changes from which the world derived its principal supplies of energy, such as the combustion of coal, have been brought about by combinations of some of these different elements. In these combinations, and in those in which energy has been obtained by the decomposition of certain compounds, it has been possible for the chemist to follow and to deal with the individual elements involved.

In other words the energy liberated or obtained from the chemical changes known before the discovery of radium, has been due to changes in the groups of atoms in the elements involved and not to any changes in the constituent atoms themselves. In the case of radium however, the scientific world believes and understands that the atoms themselves disintegrate or explode, and that in this very new and fundamental change, radium undergoes

a very real transmutation into something entirely different. In the case of the combustion of fuel, different elements such as carbon and oxygen combine. The compound formed, carbon dioxide, can be decomposed by the chemist to give him again the original carbon and the oxygen. In the change in which radium liberates energy, the atoms of radium transmute or change into different elements that in no way resemble, or by no method may be made to constitute, the element radium. In this transmutation, it has been found that the energy liberated by radium is nearly a million times as great as has ever been obtained from a similar weight of matter before. Radium has taught the scientific world to believe that this inconceivably great supply of energy is locked within the atoms, but the knowledge how to liberate it at will and to apply it to useful ends has not been gained.

With regard to this great store of energy locked within the atoms, we stand to-day about as primitive man did before he acquired a knowledge of fire. He saw that it existed but he was unable to make it or to use it to serve him. As man gained control over fire, he has through the genius of a woman, discovered radium; at first this new element seemed in a class by itself.

Study of it however, gives justification for the belief that in its entire chemical nature, it is similar to the other elements. What is of even more and greater importance, is the justification there is for the belief that the energy which we know comes from radium may be found in all or in nearly all the other elements of the earth. Radium has given us reason to believe that until now, nature has been disguising, so to speak, her resources and that what we have considered inanimate material, is in reality material undergoing the real change we know to be taking place in radium, and that in these changes there is the same measure of energy and therefore of work, we know to be available from radium. That these changes, and therefore these hitherto unsuspected new sources of power, have been unknown before, is probably due to the fact they were tak-

ing place too slowly to be detected. The outstanding feature of radium is that it is undergoing these changes at a rate that was, fortunately, detected.

How radium was discovered is one of the fascinating stories of scientific work within the last quarter of a century. In 1895, Professor Crookes, working with the tube that bears his name, found that when an electric current is sent through a vacuum, it causes one end of the tube to phosphoresce or to glow in the dark. Professor Roentgen, a little later, found that from this glow there came rays, which while invisible in themselves, have the power to pass through substances through which ordinary sunlight cannot pass. Professor Roentgen found, further, that after such passage, these penetrating rays, which he called X-rays, would then affect a photographic plate just as sunlight does. With these facts before him, Professor Becquerel of Paris, determined to ascertain whether he could obtain these very penetrating new X-rays in another and simpler way. He knew that when some substances are exposed to sunlight they become phosphorescent, that they glowed in the dark as the end of the Crookes Tube did when subjected to the electric current. Professor Becquerel determined to learn whether these X-rays came from this kind of phosphorescent light.

He exposed some uranium to the sunlight so that it became phosphorescent and then placed it upon a photographic plate wrapped in paper through which sunlight could not pass. To his surprise, he found the plate had been affected just as if it had been exposed to the rays coming from the Crookes tube. Repetition of this experiment confirmed this result.

In the course of these tests, Professor Becquerel on one occasion, left his uranium upon the photographic plate without exposing the uranium to the sunlight. In other words he had not given to it the phosphorescent light from which he believed he had been obtaining these very penetrating rays first discovered in connection with the Crookes tube. To his surprise, he found upon examination of his plate, that it had been affected just as when he had exposed the uranium to the sunlight. This unexpected result was tested a sufficient number of times to convince him that there was something in the uranium that was giving these very penetrating rays. Uranium had been known for a hundred years. Chemists thought that they knew all about it in every sense of the word, but they did not know or suspect that it had this power to give off rays which would penetrate substances through which ordinary light could not pass and after such passage affect a photographic

plate as sunlight does. When he had convinced himself this was true, Professor Becquerel planned to learn more.

Marie Sklodowski, of Poland, at this time was an advanced student at the University of Paris under Professor Becquerel. Knowing the clarity and the accuracy of her mind and her methods, Professor Becquerel invited her to undertake the task of learning how and why uranium had the power to emit these ultra penetrating rays. Becquerel himself proved that they were electrical in their nature.

This young Polish girl proceeded first to the mines from which had come the uranium used by Professor Becquerel. She found that this uranium had been taken from an ore called pitchblende and that after the uranium had been extracted the refuse ore was discarded. Pitchblende is an ore that contains a mixture of a large number of other materials. Marie Sklodowski began by separating this ore into its constituent parts. She then tested each of these parts. From some she found it possible to obtain these new rays with a very feeble intensity. From others she found it possible to obtain them in greater force. By disregarding those parts in which these rays seemed to be very low and by concentrating attention upon the samples giving greater intensity, she eventually found a composition of barium that seemed to emit these rays with an intensity a thousand times greater than the uranium used by Professor Becquerel. But barium had been known for years. Its chemical character was known in every detail. The conclusion was that combined with this barium there must be another material which was the source of these rays. By further tests and by work to be explained later, Marie Sklodowski finally eliminated the barium and obtained a material which she called radium.

This discovery was made by the use of methods that marked the utmost refinement of scientific search used up to that time. The story of radium is not complete without a knowledge of this work, at least in its outlines.

Professor Roentgen had discovered that the rays coming from the Crookes tube had the power to make dry air a conductor of electricity. Ordinarily, dry air is not such a conductor. Professor Becquerel, it will be remembered, had found that the rays from radium were electrical and that therefore they had the power to make dry air a conductor of electricity. Marie Sklodowski used this fact as the basis of her investigation. By most ingeniously planned and delicately adjusted apparatus of her own design, she tested the different components of the pitchblende ore from which had come

the uranium used by Professor Becquerel. She found to what extent each of these samples emitted the rays that made dry air a conductor of electricity. This gave her a measure of the unknown material for which she was seeking in that particular sample. By eliminating the samples from which these rays came with the least intensity, and by working most carefully with those in which these rays seemed the most intense, she eventually found what she called radium.

These tests and these experiments covered a period of over three years and required the handling and the tabulation of thousands of these electrical studies. For this toil, which was most exacting, and which at times demanded a physical exertion that would have overwhelmed many, if not most, of the scientific workers of that day, this young Polish girl obtained only a few milligrams of radium.

While she was engaged in this work, Professor Pierre Curie, of Paris, had won her love and her hand in marriage. He worked with her before and after she became his wife with great zeal and perseverance. Later when the reward came and they were showered with the rewards of the scientific world, he was frank in stating publicly, that there were many times when he was for abandoning the effort as beyond their physical and financial resources. His wife, however, refused to even consider anything but a continuance until success finally was achieved.

With the discovery of radium, and the proof that it could be extracted from the pitchblende ores of Austria, the mines were promptly made a Government monopoly, under conditions that greatly limited the amount of ore that could be used for radium work. A world search was at once begun for other ores that might yield this material. They were found in the extreme West of the United States.

The United States is now the foremost radium producing country of the world, and just as France owes to Madame Curie the honor of making that country the first to give radium to the world, so the United States owes to one man, Joseph M. Flannery, of Pittsburgh, the honor of first proving the practicality of obtaining radium on a commercial basis from the low grade ores of this country; and then of developing to a commercial success a process for using those ores to give the world its greatest supply of this important material.

In the Austrian ore from which Madame Curie extracted the first radium, there is about one gram of radium to be obtained from every five or six tons. In the United States ore there is only one gram of radium in

every five or six hundred tons. The ore fields of this country are in the extreme southwestern part of Colorado and the extreme southeastern corner of Utah. That section is in an elevated plateau some thousands of feet above sea-level, and the mountains there average about a thousand feet in height. They are so precipitous it is frequently necessary to go from two to three times the distance in a circuitous way in order to advance one foot either up or down.

The ore deposits vary in size from small pockets containing a few pounds of ore to large quantities containing as much as eighteen hundred pounds. These deposits are located about one hundred and fifty or two hundred feet from the summits of these mountains, places as difficult of access as different in the amount of ore to be obtained.

In 1911, when Mr. Flannery determined to give the United States its own supply of radium, no work had been done in this country to obtain radium from this ore. There was no set of workers available. The few that had any experience in radium production were in Europe and to them the wild and mountainous territory of the ore fields of this country was by no means attractive. For work there, Mr. Flannery had to train new men; he had to work out a new method for obtaining the radium on a commercial scale from such a low grade ore.

Success came to him after three years of difficult and original preparatory work. After that time of struggle, Mr. Flannery had a concentration mill in operation out in Colorado. He had an equally large refining plant just outside the city of Pittsburgh, and within that



Mme. Curie talking to president and general manager of the company

city he had what has since become the largest radium research laboratory in the world. Through these plants there has now passed far more than two-thirds of all the high-grade radium now available in the world.

What had to be done to achieve this

success and what has to be done to maintain it, is not without interest. To obtain a gram (that is a thimbleful of radium), it is necessary to work with from 500 to 600 tons of ore. To obtain each of these tons, it is necessary to handle from five to ten tons of worthless material. After the 500 or the 600 tons of ore have been selected it is necessary to refine and purify them. This is done by the use of some 500 tons of chemicals, 1,000 tons of coal, and some 10,000 tons of distilled water.

Because of this record, Madame Curie asked especially to be brought to the radium laboratory and to the radium plants Mr. Flannery founded, when she came to this country to receive the gram of radium given to her as a gift by the women of America.

The total quantity of high purity radium now available in the whole world is estimated to be about six ounces. Radium is sold by the gram. It takes twenty-eight grams to make an ounce. Each gram sells for \$100,000. The company founded by Mr. Flannery, the Standard Chemical Company, of Pittsburgh, has produced to date some 90 grams of radium. This company does not sell radium except to members of the medical profession

(Continued on page 26.)



Reduction plant in wilds of Colorado—65 miles from a railroad

AMERICAN INDUSTRIES

D. M. EDWARDS, EDITOR AND MANAGER

REGISTERED IN U. S. PATENT OFFICE
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LETTING THE WHEELS TURN AGAIN

THREE of the most vital situations facing the industrial and business men of the country have just been settled. They are:

1. The end practically of both the mine and railroad strikes.
2. The disposal of the tariff bill.
3. The stopping of the bonus raid on the Treasury.

It would be difficult, in analyzing the situation, to choose the most important issue of the three. But when President Harding vetoed the Bonus Bill, he not only set forth very plain and ample reasons why the country could not undertake to pay a flat bonus to everyone, who had done any kind of work for the army, military and civil, but he pointed out the true financial condition of the country, which must have impressed even the most partisan of the bonus propagandists.

President Harding told the people frankly that the country was broke; that there was an impending deficit of \$650,000,000, which means in convincing English that the nation is spend-

ing for the present year \$650,000,000 more than its income. That is bad business, whether for an individual or a nation. The country must some day meet up with its day of reckoning and one of the duties of the chief executive is to keep his eye on that day. President Harding pointed out that the Budget Bureau is seeking in every way to keep the Government expenses down to the \$3,000,000,000 mark. Even if it should be able to do this, we will still be spending many millions more than our income. The cost of all the departments is large. The activities of the Department of Agriculture and Commerce have had to be greatly expanded because of the new necessities following the war. The army and navy both are still costing beyond half a billion dollars. The government's shipping business is losing millions of dollars a month.

On top of all this the country has \$4,000,000,000 of debt coming due this year and \$10,000,000,000 of debt coming due within the next six years. This will have to be taken care of by refunding in a great measure; which in plain terms, means Uncle Sam will have to go out and borrow it somewhere.

President Harding clearly showed that the Government was treating its disabled soldiers pretty well; had not forgot them; had not ignored its obligations in this respect. "The government is now spending \$510,000,000 a year," he said "on hospitalization and care of sick and wounded, on compensations and vocational training for the disabled and for insurance. The figures do not include the more than \$35,000,000 in process of expenditure on hospital construction. The estimates for the year to follow are approximately \$470,000,000, and the figures may need to be made larger. Though the peak in hospitalization may have passed there is a growth in domicilization and the discharge in full of our obligations to the deceased, disabled or dependent, who have a right to the government's aid with insurance—liability added—which will probably reach a total sum in excess of \$25,000,000,000."

And in spite of this impressive, heart-to-heart message, the House of

THE RIGHT TO LABOR Brave But Melancholy Retrospections of a Veteran To the Editor of The New York Times:

The statement of John E. Edgerton, President of the National Association of Manufacturers, in *The Times* this morning ought to be heartening to those American workingmen who are trying to live without wearing the yoke of unionism and sharing responsibility for its crimes. If it is lawful for men to conspire together to hold up the essential industries of the country in order to force wages that they cannot get by fair means, then it ought to be made unlawful.

More than twenty-five years ago I was told by a union delegate that I could not work unless I joined the union, and I said then that here is a threat that strikes at the very root of civil liberty, and that some day the Government would have to kill this thing or be killed by it. That opinion is much stronger to-day than it was then. Right now, Samuel Gompers and John L. Lewis seem to exercise more authority than the President of the United States.

My two brothers gave their lives to the Union. I gave nine years of service as a citizen soldier. My two eldest sons served in the National Guard, and my youngest son was a soldier in France, and yet for more than twenty-five years I have not been permitted to work for a living for myself and family at the only trade I know, where unionism has been able to prevent it, but have been driven from shop to shop and from job to job and from town to town; and from time to time I have been forced into idleness during time enough to have earned a house and lot. Now I sit here writing these lines at past seventy years of age not owning a foot of ground nor a shingle on a roof, notwithstanding the fact that in more than forty years I have not spent a nickel for anything in the way of pleasure or self-indulgence.

And now I appeal to those whose right it is to rule in the affairs of this nation, and in the name of those who must work or starve, and who would keep their hands clean from the crimes of unionism, to rid the country of this tyrant by making it an outlaw in name as it is in fact.

NON-UNION OR DIE.

Newark, N. J., August 21, 1922.

Representatives, knowing all the facts, voted to over-ride the veto; but the Senate, by a very narrow margin, sustained the veto and thus blocked a raid that did not even have the unanimous support of the men who saw actual fighting for their country in Europe.

STANDARDIZING LABOR DEMANDS

OF great interest to the manufacturers of the country will be a summary of the measures which organ-

ized labor will endeavor to have passed in various states this winter. The laws parallel so closely in many of the states that it might be correct to term them standardized. The program includes:

1. Enactment in various states of the workmen's compensation insurance laws, similar to the Ohio (State Fund) law.
2. Repeal of state constabulary laws.
3. Minimum wage laws in every state.
4. Repeal of Industrial Court laws.
5. Limitation, restriction or prohibition of issuance of injunctions in labor disputes.
6. Old age pension laws.
7. Repeal of all local or state laws prohibiting pickets.
8. Repeal of recently enacted laws making voluntary associations suable.
9. Compulsory unemployment insurance laws.
10. Specific legislation to protect against governmental intervention the so-called right to strike.
11. Sweeping aside powers of the judiciary (federal and state) to declare acts of legislatures unconstitutional and giving legislators power to over-ride such decisions.

AT LAST SOME ACTION

THREE months after striking coal miners at Herrin, Ill., had massacred a score or more men whose only affront was that they wanted to work, and had aroused the horror of the entire nation, the Special Grand Jury investigating the atrocities, has just handed down 214 indictments against supposed participants in the outrage. The jury returned thirty-eight indictments for murder; fifty-eight for conspiracy and rioting; fifty-eight for conspiracy to commit murder; fifty-four for assault to commit murder and six for murder.

The jury's report did some plain talking. It arraigned certain authorities, charging them with "failure to protect life and property" in not sending for troops when the mine trouble seemed imminent. The report criticized the action of the coal company opening its mine during a strike, saying the principal owner "either was

woefully ignorant of the danger or blindly determined to risk strife and conflict if profit could be made."

The report also denied the statement of Adjutant-General Carlos Black, made after the mine killing, that he had no authority to call out troops unless asked to by the sheriff, and said there was no law which forbade the Adjutant-General calling troops.

Sheriff Melvin Thaxton is accused of failing in his duty. On this point the jury said:

"Sheriff Melvin Thaxton is a member of the miners' union and also is a candidate for county treasurer and he failed to take adequate measures to preserve the peace either because of his sympathy for the union or through fear that he would hurt his candidacy. The attack on the strip mine had been planned several days and Sheriff Thaxton had ample time to learn of the proposed movement of the non-union men."

Ransacking of hardware stores for arms and ammunition just before the attack, says the report, was the result of a telegram from John L. Lewis, president of the United Mine Workers, to State Senator William S. Sneed, declaring the non-union men to be strikebreakers.

Senator Sneed is a subdistrict president of the miners' union, and the report stated the telegram was posted at various places, and that the miners rifled the stores with the assurance that the United Mine Workers would pay for articles they took.

UNLOAD YOUR COAL AT ONCE

W. O. WRIGHT, transportation manager of the Associated Industries of Massachusetts, sends out a suggestion that could be well and profitably followed by manufacturers in all other states.

It is this:

"In order to attain the highest efficiency in our transportation facilities all receivers of freight in any cars, but more particularly coal and freight in open top cars, should give most careful attention to immediate unloading. All possible forces should be put to this task immediately upon placement of the cars and unloading continued until car is empty."

OBITUARY

Mr. Coleman Sellers, Jr., president of Wm. Sellers & Co., Incorporated, died on Tuesday, August fifteenth in his seventieth year after an illness of several months.

Mr. Sellers' connection with the Sellers house, then a firm, began in 1873 immediately after his graduation from the University of Pennsylvania. After serving a practical course in the shops for several years, he took a position in the drafting room of which he soon became the head. He was appointed assistant manager in 1887, becoming at the same time a director of the Company. He was elected engineer in 1902 and president in May, 1905, which last office he held continuously until his death.

He came from progenitors who in the four preceding generations gave many evidences of unusual mechanical and engineering ability, and the first of whom come to this country from Derbyshire, England, in 1682.

His father, Coleman Sellers, a member of the Sellers firm in 1873, was one of the most brilliant mechanical engineers of his time, and of most versatile talents. Like his father, Mr. Sellers also was a man of many parts and of liberal ideas, and while his principal inclinations and activities were in mechanical and engineering lines, he took keen interest in many other directions, scientific, literary, educational and the arts, and was active in the civic life of Philadelphia as well as in city, state and national betterments.

He was long active in the affairs of the Franklin Institute, of which he was vice-president at the time of his death. He was a member of the Board of Commissioners of Navigation of Pennsylvania, to which he was appointed in 1907. He took special interest in the work of the American Philosophical Society, the American Society of Mechanical Engineers, the American Society of Naval Architects and Marine Engineers and the Engineers' Club of Philadelphia of which he was one of the founders. He was president of the Chamber of Commerce from 1909 to 1913.

He served as chairman of local Draft Board No. 20 during the early stages of our country's entrance into the war and with such fidelity and assiduity to both the Government and the draftees that his intimates have since been convinced it seriously impaired his health and contributed not a little to his subsequent illness and death. It can therefore well be said that he too made physical sacrifice to the Great War.

ROMANCES OF INDUSTRY—RADIUM

(Continued from page 23.)

and to a very limited extent for commercial purposes. For commercial purposes, the total quantity the Standard Chemical Company sold last year, was only 1.8 grams.

An explanation of the way radium is used in the commercial world makes it easier for the non-professional



Road built to the plant

reader to understand how and why physicians use radium. Radium is used on watch, clock and indicating dials. How and why such an expensive material may be so used has always puzzled the uninitiated. Like most interesting developments, the explanation is as interesting as simple, although the actual use of this material in this way involves a great deal of the most exacting and careful work. When the atoms of radium break up or explode, they expel a tiny particle just about as a rifle expels a bullet or projectile. Traveling with a speed greater than matter has ever been known to travel before, these tiny particles (when suddenly stopped) strike with such terrific force that the heat they engender causes a flash of light the eye can see. This although these particles themselves are far too small to be seen even under the microscope. By mixing with a tiny modicum of radium some specially prepared zinc sulphide, the combination is a material that glows in the dark. The glow is caused by the light from all the little flashes of light caused by the impact upon the zinc sulphide of all the little projectiles from the exploding radium atoms. The quantity of radium upon a watch dial is only about one or two or three micrograms, i. e., one or two or three millionths of a gram or of a thimbleful. If there were more radium upon a watch dial, the number of projectile-like little particles striking

the zinc sulphide would soon batter it to pieces. There would then be no glow or light because it is the zinc sulphide that glows under the impact of the blows from the particles flying from the exploding radium atoms. In other words radium can be used upon watch and other indicating dials because so little of it is effective. A thimbleful of radium being sufficient to make luminous nearly three-quarters of a million watch or indicating dials.

Radium is used by the medical profession because scientific study and experience have proved the rays from it have an effect upon the cells and the tissues of the body. How physicians may purchase such an expensive material is a detail of interest to the general public. Each gram (or thimbleful) is divided into a 1,000 parts. Each of these is called a milligram. These milligrams sell for \$120. The average physician has from 10 to 500 milligrams. In his use of radium he places it so the rays coming from it have an opportunity to act upon the section of the body he desires to affect. It is the rays he utilizes and not the material itself, just as when using the X-rays, it is the rays and not the apparatus that produces these rays that are utilized.

Costing as it does more than two thousand times as much as gold, the way radium sales are made is always of interest to the general reader. Every sale of radium, large or small, is certified to by the United States Bureau of Standards. The procedure is as follows: When the laboratory men have prepared the radium as the physician has requested, the preparation is then sent by registered mail, insured, to the United States Bureau of Standards, at Washington. There the radium is measured. This measurement consists in noting and recording the gamma rays that come from it with the rays of the same type coming from a known quantity of radium which has been prepared and officially certified to as a standard. The rays from equal quantities of the same preparation of radium are always equal in intensity under given quantity of radium is always a way, the electrical energy from any given quantity of radium is always a measure of the quantity of radium present. Some years ago, by general consent, Madame Curie was requested to prepare what would be accepted as an International Radium standard. This is deposited at Paris. Each of the large countries and some others, have duplicates of this International Standard. The United States has one which is deposited at the United States Bureau of Standards. By comparison, therefore, of the electrical energy in the rays coming from the radium preparation under examination with those

coming from the duplicate of the International Standard, it is possible to determine what quantity of radium there is in the new preparation. When this examination, test or comparison has been made by the United States Bureau of Standards, the preparation is sent to the company by registered mail, under seal of the Bureau of Standards. The Standard Chemical Company, at Pittsburgh, does not break the Government seals upon this package, but rewraps the radium and forwards it to the physician who has ordered it, with an advance notice telling him of the date when to expect the package and asking him to note before accepting it that the seals of the United States Bureau of Standards are unbroken. When the Bureau of Standards makes such an examination or test of a new preparation of radium, it issues a certificate stating what was found at the test. This official certificate is sent to the physician and with it is sent in addition a certificate issued upon the honor of the Standard Chemical Company as to what the preparation contains. These two documents protect the purchaser and give him the assurance he has obtained under the seals of the United States Government what he has paid for. As radium disintegrates at the rate of only one twenty-fifth of one per cent per annum, what the physician obtains is a material that will outlast anything else that may be purchased at this time.



Where a sneeze might cost \$10,000.
Radium at tip of tube

In power of penetration, the rays from radium are the most effective known. To produce a ray that has the penetrating effect of the radium rays, it is necessary to use an X-ray machine having a voltage of some 150,000 volts. At present science has no ways or means for controlling the extremely penetrating rays from radium. They

issue from it with a continuity and with an intensity as uniform as unique. There is no combination of heat, or of cold, no chemical or other change that in any way modifies or affects them.

Remembering this and that in these rays there is the tremendous amount of energy and therefore of potential work of which mention has been made, the question arises, will the time come when this energy may be controlled and made available for the service of man? The progress of the time in all the lines of scientific effort holds out the hope if not the assurance that some day, some one will make this possible. When we are inclined to doubt this we would do well to recall how so much that is an accepted part of our every day life was once considered in the realm of the impossible, if not in that of the unthinkable. Assuming that scientific minds and means will some day unlock the secret of utilizing this power, what, we may ask, will this mean of practical importance in the daily lives of the people of to-day.

It has been ascertained that if all the energy that comes from say a pound of radium, slowly, during all the years that must elapse before the material disintegrates and ceases to be radium, be conserved and made available at one time, the total would equal about what is now obtained from some 150 tons of coal. The significance and the importance of that statement justifies and makes clear why scientific minds think seriously of radium. By working with radium and by such work, gaining a knowledge of how to control the output of energy coming from it, the first forward step will have been gained. The second step will be to apply this new knowledge to other ma-



Tons and tons of ore being reduced to a speck of radium

terials in the earth that are similar to radium in a chemical way. There is reason and foundation for the hope and the belief that the time is coming when man will have the power and the means for obtaining from what has until now seemed dead and inanimate nature energy and therefore heat and light and power millions of times greater than is now obtained from equal weights of coal.

Inasmuch as the United States has given the world more than two-thirds of all the radium now available, and inasmuch as far more than one-half of

this supply has come from the one organization, founded by Mr. Flannery, there is justification for the belief and the hope that when this great secret is wrested from radium, the discovery will be made with radium produced in the United States.

When it is considered that while trained minds are working for this triumph, radium is serving the medical profession as one of its most helpful aids, the United States may well be proud of the chapter the Story of Radium makes in the history of the industries of America.

Six Thousand Families Protected

A NNOUNCEMENT has been made by John A. Roebling's Sons Company, Trenton, New Jersey, that all employees, who had been with them a year or longer, on September 1, have been protected by Group Life Insurance and Pension Plans. By arrangements made with The Equitable Life Assurance Society of the United States, the insurance went into force automatically at midnight of August 31.

The insurance is graded according to length of service, all employees more than one year and less than two years with the Company to receive \$500, increasing \$100 each additional year of service until the maximum of \$1,500 is reached for eleven years of service and over.

The insurance benefits will be payable to the beneficiary named by the

employee, or, in the event of his becoming totally and permanently disabled before reaching age sixty, it will be paid to him.

The Pension Plan contemplates retirement at age sixty for males and fifty-five for females, and in the event that this class of employee has served twenty years or more, they may request a pension or be retired at the discretion of the Company. Any employee, however, who has served thirty years or more, or any male employee fifty-five years of age and female employee fifty years of age whose term of service is twenty-five years or more, may at the discretion of the Company be retired from active service and granted a pension.

The Plan is further liberalized in that pensions may be allowable in cases of total disability arising from non-

occupational injuries and illnesses, provided employee has served fifteen years or more.

The amount of pension is determined by multiplying one per cent of the average annual pay during the ten years preceding retirement by each year of service. A minimum of \$25 per month and a maximum of \$250 a month has been established and will apply, except in cases where the pension is being paid in cases of total disability above referred to, where the minimum may be less than \$25 per month.

In working out this program the John A. Roebling's Sons Company are protecting their employees and their families, thereby relieving them of a certain amount of worry, and at the same time building up that friendly spirit of coöperation so essential for successful industrial life.

Making New Roofs From Old Rags

WHEN mother, with characteristic impatience at house cleaning time, drags forth from the clothes closet father's long-disused or, perhaps, recently discarded fishing togs, or gives the contents of the garret to the rag man, she little realizes perhaps how much she is contributing in the effort to overcome the housing shortage. Old rags may be a poor shelter for the human body but American ingenuity has made of them an exceedingly artistic, fire-resistant and serviceable shelter for the human habitation.

From rags to roof is a far cry. But nevertheless old rags are now covering more American houses in the form of roll roofings and prepared shingles than all other types of roofing combined. Two-thirds of all roofing requirements in the United States are now supplied from asphalt materials known as "prepared roofing," the product of a novel and typically American industry that has been developed within the past few years.

The thousands of tons of rags used daily by this industry are obtained through dealers in all parts of the country and upon their arrival at the factory are sorted and reduced to a pulp, similar to that used in the manufacture of paper. This pulp is then transformed into a fabric or felt, of long fiber and great durability. Hot asphalt is forced through every pore and fiber of the fabric and the combination is then coated above and below with asphalt so as to make it proof against decay and leakage. Because asphalt is a substance that does not dry out, the roll roofings or the shingles which are cut from this fabric do not crack or split. They are resilient and pliable and do not break from their moorings. As they contain no materials that freeze or rust they are also proof against frost. The roll roofings or shingles are covered with a crushed slate or rock surface in attractive colors which shields them from wear and further preserves the fabric against the ravages of the weather. During manufacture the crushed slate or rock surface is imbedded in the asphalt as firmly as pieces of marble are imbedded in a mosaic floor. The shingles are made in different sizes and in three colors—red, green and blue-black. By using appropriate colors or different combinations of colors it is possible for the home builder to get not only a fire-safe and a serviceable roof but one that can be made very artistic and that will blend nicely with the surrounding landscape.

While asphalt may be new as a roof covering it is known to have been used for many centuries as a building material, preservative against decay and water-proofing substance. In fact, it is the oldest water-proof adhesive known to man. When the children of Israel were suffering under the bondage of Egypt about 1500 B. C., Pharaoh's daughter found the infant Moses concealed among the bulrushes in a basket made of papyrus grass and daubed with asphalt. Noah's Ark, a boat that was 500 feet long and that was made of gopher wood, was caulked with asphalt before Noah filled it with his animals and rode out the flood. The ancient Egyptians mummified their dead by wrapping the bodies in cloth and then coating the cloth with asphaltic pitch. The sacred chambers, or tombs, of the dead Egyptian kings, as well as all the crevices in the pyramids were sealed against the centuries by means of asphalt. The bones of mastodon, sabre-tooth tiger and other pre-historic mammals recently have been found perfectly preserved in the asphalt beds of southern California.

When the pre-historic hunter made a tent of goat-skins, sewed with thongs, or built a goat-skin boat, he water-

proofed the seams by coating them with asphaltic bitumen. History recalls that the Babylonians crossed the Euphrates River on rafts made of inflated goat skins, water-proofed with bitumen just as the Kurds are doing to-day. The ancient Samaritans, who inhabited the Euphrates Valley about 3000 B. C., used asphalt as a cement or binder for attaching small ornaments to sculptures, carvings or pottery. As a mortar for brick, asphalt was used in the construction of the Tower of Babel. It was Nabopolassar, King of Babylon, who first used asphalt as a mortar or filler in the construction of paved streets. His son, Nebuchadnezzar, continued the practice and caused to be inscribed in the pavement the words "Traverse These Streets With Joy." Asphaltic materials were used in the construction of the walls and foundations for the ancient city of Media.

Thus, it can readily be seen that the use of asphalt in the manufacture of roofing, in boat-building and in paving has been handed down to American industry by the ancients. This most modern application of asphalt to human needs as a roofing material, therefore, has come in a form made the more necessary by modern housing conditions.

NEW CANADIAN INVOICE

Shippers of goods to Canada are advised of a new form of invoice required by the Canadian Customs which went into effect October 1. The new form "M" "Certificate of Value" eliminates that portion of Section 4 which appears on the old form "M" which reads as follows:

"And that such fair market value is not lower than the wholesale price of the said goods at the said time and place; and that in the case of new or unused goods, such fair market value is not less than the actual cost of production of similar goods at said time and place, plus a reasonable profit thereon."

A new section is added as follows:

"(7) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice in the column provided for that purpose."

GLAZED-KID PLANTS BOOMING

Glazed-kid plants at Wilmington, Del., are experiencing a return to a great degree of the prosperous times that existed during the war. For four years many of the tanneries have been operating either with force enough only to keep the wheels moving or a little

more. Some were closed. With the resumption of a demand for glazed kid the tanneries are getting back to a more substantial operating basis. The Standard Kid Company is operating at about 80 per cent, with enough orders ahead to keep running many months. The New Castle Leather Company also is operating at about three-fourths capacity, with orders ahead. The two Beadenkopf plants have resumed operations and other plants are preparing to operate on a larger scale.

OIL MEN HONOR PIONEER

Hundreds of oil men from all parts of the United States made a pilgrimage recently to Oil City, once the center of the oil world, and paid homage to the memory of Colonel Drake, the first man who drilled for oil. R. L. Welch, secretary of the American Petroleum Institute, was the principal speaker, and he urged that the general public be better educated on oil matters. The following officers were elected by the Institute: William H. Hoffman, Syracuse, N. Y., president; John H. Scheide, Titusville, treasurer, and Edwin C. Bell, Titusville, secretary.

Unemployment And Some Causes

Periodical recurrence of the troublesome situation leads to the theory, after the elimination of others, that the only remaining explanation is a possible fault seen in our system of exchange

Written especially for AMERICAN INDUSTRIES

By HUGO BILGRAM

President, The Bilgram Machine Works

THE periodical recurrence of unemployment is a world-wide feature of our industries, which indicates that its cause must be traceable to some world-wide defect in our industrial system. It is therefore not surprising that a careful analysis leads to an unexpected explanation.

In the attempt to trace this cause we must seek to answer this question: Why are so many men who desire employment unable to secure it? These men do not ask for charity; they offer their labor in exchange for the means of their subsistence; they offer value for value. What is it that prevents their effective demand from being satisfied?

Since these visitations affect countries as fertile as the United States, it would be unreasonable to put the blame on a possible shortcoming of natural resources. Nor is there a lack of the means of production, for those means are in part lying idle everywhere. The only factor that remains is a possible fault in our system of exchange, and this suspicion is justified by a careful examination.

Directing our inquiry along this line, the first obstacle encountered is the fact that the nature of our medium of exchange is but imperfectly understood. While the function which money performs is well recognized and widely discussed in works on economics, the study of the attributes that enable money to perform this function does not receive the attention warranted by its importance. We must therefore above all else become acquainted with the nature of money.

Suppose in a moneyless community a farmer desires to obtain a pair of shoes in exchange for some of his farm products, but is unable to find a shoemaker who is in need of such. However, he learns of a hatter who is willing to give a hat in exchange of potatoes, and of a shoemaker who is in need of a hat. He accordingly takes potatoes to the hatter to obtain a hat, and taking this to the shoemaker, obtains shoes for it. He really obtains shoes for potatoes by compound barter. While he did not want the hat, it served him as a medium of exchange.

As regards the farmer, the hat was a prototype of money.

This transaction no doubt illustrates the process by which money, the medium of exchange, was invented, or rather evolved, in past ages. In the course of time it was found that certain commodities, particularly the precious metals, silver and gold, were better adapted than the hat of our illustration to perform this function, and they became the preferred medium of exchange. This led to their general acceptance in trade and to a tacit communal agreement to accept these metals as a medium of exchange.

This mutual agreement, though only of a tacit nature, stimulated the acceptability of gold and silver far beyond their natural desirability, and moreover, invested them with the power of selective purchase. Those who had gold or silver, if they desired to acquire any goods of their choice offered in the market, were not obliged to find a seller of such goods who was in need of their productions, since gold or silver were freely accepted in exchange for anything. Later the metals were coined and the consensus of the community to general acceptance in trade was confined to coined silver, and still later to coined gold.

From this it would appear that a thing, to be adapted for mediating exchanges, must be a thing of value which by common consent is accepted as a medium of exchange.

The adoption of silver, and later of gold, as a unit of value, as a means for stating the value of other things, rendered it possible to express the value of money in terms of the adopted value unit.

However, the above conception of money does not appear to apply to our present currency, which almost exclusively consists of paper tokens and of bank deposits subject to check. In modern currency and banking system valid promises to pay gold to bearer, issued under certain legal rules, are employed instead of the metal gold as a medium of exchange. Our present currency is "credit money," as distinguished from commodity money, and in order to understand its nature we

must become fully acquainted with the scope of this term.

Unfortunately, the term "credit" is conventionally used in a variety of meanings which leads to a confusion of thought. It is currently used in at least three different senses, and unless we agree to confine the word to only one meaning, it is impossible to avoid misunderstandings in our attempt to discuss the subject.

In the first and original sense the word "credit" describes a person's reputation for faithfully fulfilling his obligations. In commercial reports the word is used in this sense.

In its second sense it is descriptive of the right which a creditor has against a debtor. When a bookkeeper gives credit on his books to a firm that has delivered goods, he records a right which is conceded to that firm. In this sense "credit," the right of a creditor, is the correlative of "debt," the duty of the debtor.

In the third sense it is used when it is said of banks that they deal in "credit." This is an unjustifiable abuse of the word, for the banker's credit is really "credit money," being employed as a medium of exchange.

In the following discourse the word will be strictly confined to the second meaning, describing the right which a creditor has against a debtor. Indeed, in the phrase "credit money" the word is descriptive of a right conveyed by the money token, and we should fully acquaint ourselves with the significance of the word in this sense.

Suppose a business man is the owner of a business, the tangible assets of which are worth \$100,000. But being indebted to the extent of, say, \$40,000, his statement will show that he is worth \$60,000. This is obviously an admission that of the \$100,000 worth of wealth in his possession he is the owner of but a portion amounting to \$60,000. The remaining \$40,000 worth of wealth in his possession must be owned by someone else, and who else can this be but his creditor? This shows that in an economic sense the creditor is virtually joint owner with the debtor in the latter's possessions to the extent of the debt. This form of

ownership does not carry with it the right of immediate possession, any more than the owner of a rented house has this right, though his ownership is not therefore questioned.

When the right of a creditor is viewed in this sense, the wealth possessed by the debtor becomes the substance that imparts value to the "credit," and the conception of "credit money," meaning money that owes its value to a right conveyed by the money token, assumes a definite form. This right is directed against some debtor and is accepted by common consent as a medium of exchange. To him who accepts credit money in trade it is virtually an acknowledgment that he has surrendered wealth and has thereby acquired joint ownership in the wealth possessed by certain debtors and, owing to a communal consensus, this right enables the holder to receive any time an equivalent of his choice in the market. The owner of credit money, then, is a creditor, a lender of capital, so long as he retains possession of the money.

To be sure, the process of selling is not a process of lending capital in the ordinary sense, but nevertheless is a temporary surrender of wealth in the process of exchange, a sort of call loan. The owner of credit money has surrendered actual wealth in exchange for a mere acknowledgment of debt, with the object of obtaining some other form of wealth in exchange at some future time, and during the interval he is to all intents and purposes a lender of capital. This may be an unusual way of stating the fact, for everybody is willing to submit to this temporary surrender of wealth, and since every dollar of credit money in use, deposit currency included, is owned by some such lender, the total capital so loaned amounts to the sum total of all credit currency in circulation plus all bank deposits subject to check, an amount of some 20 or 25 billions of dollars in this country alone.

If the owner of credit currency is a creditor, there must be a corresponding debtor. Who is he? Let us apply this question to our Reserve currency.

This currency bears the promise: "The United States of America will pay to the bearer on demand so many dollars." This would seem to indicate that the United States is the debtor. But in as much as the United States did not receive any value in the process by which the bank notes were issued, it cannot be indebted to the holders of the notes. Analysis of this process reveals that the United States went surety for the real debtor in order to make the notes universally acceptable within the country without further scrutiny. This is really the only essential func-

tion of the government in the currency system.

If the United States redeems a note, the redemption gold is taken from a fund provided and maintained by the Reserve bank that issued the note. While this would make it appear that the bank of issue is the debtor, the same reasoning cited above shows this conclusion to be equally faulty. The bank is really an intermediary agent between the real debtor and the holder of the note, its function being to insure the debt and to effect the distribution of the currency.

When currency is issued, a number of re-discounted commercial acknowledgments of debt or their equivalents are deposited by the Reserve bank as security for the currency issued. The makers of these promises are indebted to the possessors of the discounted papers, and these being deposited as security for the currency, their makers are indeed, in the final analysis, indebted to the owners of the currency. These are evidently the debtors whose identity we are looking for. The currency therefore records a relation between its holders, as creditors, and the makers of those promises as debtors. The holders of the currency are accordingly joint owners with those debtors in the latter's possessions, and the currency is virtually a re-issue or transcript of those acknowledgments of debt. Their makers are the debtors of our credit currency system, while the owners of the notes are the creditors.

The description of money propounded before, namely: "Money is a valuable thing which by consensus of the community is accepted as a medium of exchange" is as applicable to credit money as it is to commodity money, with the only difference that not the valuable things themselves, but only a property right to such, is passed from hand to hand as the currency is used, while the pledged wealth remains in custody of the debtors who, while possessing it, have no full property right to it. The possession of these debtors, then, constitute the substance, the "valuable things," of which credit currency virtually consists.

Moreover, it follows that any acknowledgment of debt issued by a responsible debtor and insured by the payment of a premium that fully covers every risk of failure possesses all the attributes economically necessary to serve as a medium of exchange. Indeed, the process by which our Reserve currency is produced demonstrates this assertion.

However, the exclusive right of effecting this transcription of assured debts into currency, a transcription that imparts the legal sanction of use as money, is reserved by law to the banks

of issue who thereby obtain the power of regulating the amount of currency that may be issued. And, invested with that power, they impede the issue of currency, principally through the imposition of unreasonably high discount rates, supplying the business world with an insufficient amount of the medium of exchange, and this has a twofold effect.

In the first place, it causes unemployment. In our modern system of specialized industries the things in course of production, as they pass from one productive group to the next and finally to the ultimate consumer, become subject to repeated exchanges which require the use of a medium of exchange. It is clear, then, that any impediment placed on the production of the medium of exchange is also an impediment on the production of wealth. An inadequacy of the medium of exchange is indeed quite competent to explain our inability to keep all workmen fully employed.

In the second place, an inadequate supply of currency is attended by an excessive demand for such, a demand that imparts to all forms of money a predatory power, a power to command an artificially boosted rate of interest.

This imputation leads to the question: "What is the proper rate of interest on money loans?" And this can be properly answered only upon learning why it is that money commands interest.

On the latter question economic authorities disagree among themselves. Their various interest theories may be grouped in two classes, the abstinence theories and the productivity theories.

According to the first group there are men who are disposed to save, and others who are improvident and do not save. As a result of their folly the latter will at times be in need of things that will be supplied by the thrifty, and for abstaining, for the benefit of others, from forthwith consuming their savings after producing them, they deserve a compensation which they obtain in the form of interest. But this explanation does not apply to commercial loans, the only kind normally made by banks, for banks will not loan to those who have been improvident.

A modification of this theory has appeared in the form of the agio theory. It is held that men generally prefer, even apart from any risk of loss, goods in hand to such as will become available for consumption in the future, and that for this reason future goods are underestimated as compared with present goods. Those who buy future goods, in the form of promises to pay, for a less amount of present goods, namely the discounted value of those promises, and wait until the

promises mature, acquire the difference, which is interest. But this theory is incompetent to explain interest on commercial loans for the same reason just cited. When men accumulate wealth by saving, they do so because for some reason they prefer future to present goods, and bank loans are made to those only who have proved their preference for future over present goods by accumulating wealth. Business men do not submit to have their promises discounted for the reason promulgated by this theory. There must be some other explanation.

The more predominant and more plausible explanation of interest is based upon the assumption that capital assists in the production of wealth and so confers a material advantage or benefit. A borrower of capital acquires this benefit and is willing to share it with the lender rather than do without it. But it can be shown that this reasoning is equally incompetent to explain the power of the medium of exchange to command interest.

Suppose a machinist saves by producing more machines than he requires for his personal needs. The first step necessary to invest his savings is to sell his surplus productions. But in doing so he accepts currency which, as we have seen, is a mere acknowledgment of the delivery of goods or services, coupled with the right to demand an equivalent in the market. While he retains the money, his surplus products remain surrendered and are being put to use by the buyer who thereby acquires the benefit which the machinist's savings afford.

If interest were due to the lender of goods, the holder of credit money would be entitled to receive interest while he retains the money acquired from the sale of his savings. Why does he not receive, indeed, why does he not even expect to receive, this interest accruing from the use of his savings while he holds the acknowledgment of their surrender, the money? The failure of the holder of credit money to receive such interest flatly contradicts the modern interest theories.

Suppose, now, a friend of the machinist, say a tailor, asks him for a loan of his money. He complies and expects interest on the loan. Interest for what? His money is indeed a receipt for having surrendered his savings to someone else. Surely, he cannot deliver his surplus productions a second time. The money he lends is an evidence of joint ownership in the possessions of certain business men and is therefore not capital in any sense. And if the machinist had not sold his surplus products, the machines, but offered them as a loan to his friend, the latter would have no use for them. He

may want cloth to carry on his business. It is true, the cloth manufacturer will deliver cloth in exchange for the money, but he will do so because he is participant in the agreement to accept in payment the promises of which our currency consists, and not because the machinist had made machines in excess of his personal needs and delivered them to someone. The merits of the machinist are no longer involved. How is the machinist's claim to interest to be explained?

When he loaned the money to the tailor, he obtained from him an acknowledgment of debt, a promise to pay. But the money which the machinist loaned to the tailor consisted also of acknowledgments of debt, of promises to pay. A loan of money is accordingly not a loan of capital, but a mere exchange of one promise to pay for another. Why, then, is the tailor expected to pay interest? To answer this we must learn the precise difference between the two promises that were exchanged.

While the promises of which our currency consists are fully assured and vouched for by the United States, the promise of the tailor may be subject to some risk. It is therefore proper to expect the tailor to cover this risk by the payment of an adequate insurance premium. But this premium is acknowledged by economists not to be interest in the economic sense, although a constituent, known as insurance, of the gross interest paid on money loans. Hence difference in risk can account only for a small portion of the gross interest commanded by money.

There is a second difference. The currency is a promise to pay permitted to be used as a medium of exchange, which the tailor's promise is not. His willingness to pay interest is therefore due to his need for a medium of exchange, for something that is currently accepted in the market in payment for goods. The tailor's promise, if insured against risk, has all the attributes required for being utilized as a medium of exchange, but our laws exclude it from performing this function, while the currency, a mere transcript of "promises to pay" similar to that of the tailor, is permitted to be so used, provided the transcription is effected through a Reserve bank. Interest paid on a money loan is clearly a royalty paid for the power of money to be used as a medium of exchange, and is payable to the lender of money because our laws confine the exclusive right for converting business debts into currency to the banks of issue. This is the only rational explanation for interest payable on money loans in excess of insurance and cost of labor involved.

Since credit currency establishes be-

tween its holders on the one hand and the business men whose promises are deposited as security for the currency on the other the relation of creditors and debtors, the inference that these creditors are entitled to interest appears to be justified. The debtors actually pay interest on these debts in the form of "discounts," but this interest never reaches the creditors, for it is retained by the middlemen of this relation, by the banks of issue. According to the current interest theories this interest, minus the value of the services rendered by the banks as intermediary agents, should really go to those who by surrendering wealth in exchange for credit money become the creditors of the currency system, but there are several reasons why it never reaches them.

In the first place, these creditors are perfectly willing to submit to the temporary surrender of wealth that is unavoidable in the course of exchanges. They willingly deliver wealth and services in exchange for acknowledgments of debt which enable them to choose equivalents in the market at pleasure. They consider this advantage of money an adequate compensation and neither expect nor claim the "interest" to which they are entitled according to the modern interest theories.

In the second place, it would be utterly impracticable to distribute this interest equitably among the real lenders of capital, the owners of credit currency.

In the third place, during the development of the modern systems of credit currency the banks of issue claimed to be entitled to this interest, and since this title was never judicially disputed, the practice was continued even though it is indefensible by, and inconsistent with, the current interest theories.

In the light of the above line of reasoning the nature of credit money can be further elaborated as follows: Our credit money consists of transcripts of insured acknowledgments of debt, issued and insured by responsible debtors and vouched for by the government, with the view of adapting these transcripts to mediate exchanges. The bank notes are valuable because they are assured acknowledgments of debt and not because their owners have saved and surrendered wealth, and they are a medium of exchange because the community agrees to accept them as such and not because they were issued through a bank having the right of issue. And credit currency commands interest exceeding cover of risk because it is permitted to be used as a medium of exchange through which selective purchase becomes possible, while acknowledgments of debt issued by the borrowers are by law excluded from this privilege unless they are tran-

scribed into currency by any one of the banks of issue. That neither the alleged productivity of capital nor the service rendered by the saver of wealth can in any way account for this power of credit money is revealed by a rational analysis of the nature of money. Indeed, the net interest commanded by money is a monopoly toll that cannot be justified by a reasonable application of any of the modern interest theories and is tolerated only because the true nature of our currency is not generally understood.

Under the true conception of money the practice of regulating the amount of currency, by carefully guarding its issue against an imaginary danger, is equally unjustifiable. The irrational impediments now placed on the issue of currency, if not removed, are bound to lead to a final downfall of our industries, as will appear from the following line of reasoning.

The bulk of our currency consists of bank notes and deposit currency which under our banking system can come into circulation only through the process of borrowing. The indebtedness of the business world to the banks resulting from the issue of currency is therefore initially equal to the amount of this currency in use, and no portion of this debt can be paid off without contracting the quantity of money in use by the same amount. So long as business is in need of a medium of exchange, this debt remains unpayable. If one man succeeds in paying off his portion of this debt, the resulting contraction of currency can be met only by some other man's borrowing.

But more than this. This debt is interest bearing, and the interest must be paid out of the currency in circulation. And unless the currency thereby withdrawn is restored to circulation, the amount of money in use is subject to continuous contraction.

Now, there are but two ways in which this restoration can be effected; first, by the recipients expending it in the market, either on personal accounts, or on investments, such as buying stocks, or bonds previously issued, by re-organizing enterprises or by engaging in various other operations of finance; and second, by offering the money for loans or by buying newly issued bonds.

If money paid as interest is restored to circulation in the second way, as some always will be, the interest paying indebtedness due to our system of currency is increased beyond the amount of currency in circulation, and this debt assumes the same character as the initial debt, in that no part of it can be paid off without reducing the amount of money in circulation. On the contrary, with every such increase

of these debts over the quantity of currency in use the obligation to pay interest is likewise increased, so that the rate at which this irredeemable debt grows becomes continually more rapid. The debt increases in a geometrical ratio and must therefore lead in the end to a total bankruptcy of the industries.

Judging from appearances we are approaching this final catastrophe with unprecedented rapidity. The roseate views of our optimists who predict an early revival of trade may be answered by the disastrous crime wave sweeping the country, which is the inevitable outcome of the hopeless unemployment of many of our workingmen. Is it not time to consider how to put a stop to this heedless rush to ruin?

If it is true that our medium of exchange is nothing more, and need be nothing more, than acknowledgments of business debts, the redeemability of which is fully secured by adequate pledges of wealth used in business, fully insured by the payment of a small premium adapted to cover all losses that may be sustained in spite of all precaution, and vouched for by the government to whom these assurances are tendered—and I challenge successful contradiction of this description of our bank currency—then there is no need for conferring an exclusive right of issue to a few very rich men with the result of enabling these to impose an enormous toll on the producers of wealth for having their debt acknowledgments converted into a medium of exchange.

To everyone who can train his mind to the adoption of this conception of our medium of exchange, the fallacy of the notion that "prices rise with every increase of money" will be obvious. Nobody would allege that the value of a promissory note depends upon the amount of promissory notes that have been discounted in a country. Then, why should this notion be applicable to those discounted promissory notes that have been transcribed and are employed as a medium of exchange? The dread of inflation has been successfully nursed in the minds of the people, although it is a mere subterfuge used to justify the pernicious exploitation of the producers of wealth.

I do not deny that a rise of prices inevitably follows any increase of mere money tokens issued by an insolvent debtor without any corresponding increase of his resources. For this amounts to a debasement of the unit of value, since the depreciated promises determine the value of the unit of account. But prices cannot rise as a result of an increased use of adequately secured debts as a medium of exchange since any increase of such currency is attended by a corresponding increase

of the wealth pledged for the redemption of those promises.

It was no doubt some experience with depreciated currency that inspired the quantity theory of the value of money, but there is no reason for applying this theory to the value of currency the redeemability of which is assured.

According to the above reasoning unemployment can be remedied only by abolishing the present monopoly of the right to issue currency. It is not difficult to formulate laws that put the issue of currency on a competitive basis under which business men can use their credit, when properly insured and assured, as a medium of exchange without the payment of more than the cost of labor unavoidably involved and insurance against risk. There would be no objection to an increase of the amount of security demanded, even to double the currency issued, but otherwise all needless provisions that now operate as an impediment to the issue of currency must be removed, particularly those that are now justified by the erroneous assumption that an increase of currency is attended by a corresponding rise of prices, other things equal.

These remedial measures must necessarily include a complete demonetization of gold, in the sense that the coinage of gold be discontinued and all laws be repealed that require any portion of the security or "bank reserve" to consist of gold. The obligation of gold redemption would then be replaced by an obligation of the banks of issue to become gold merchants, keeping a store of gold bullion for sale at the legal price of \$20.67 per ounce of pure gold, and experience will show that this store need not even be as large as one per cent of the outstanding amount of currency. This store of gold should not be considered a portion of the security for the issued currency, since its temporary exhaustion should be contemplated as a possibility. To be sure, if exhaustion is threatened, the currency issuing agencies should be obligated to replenish this store promptly, which cannot be difficult after the immense stores of gold now hoarded in various bank treasuries are put upon the market, being no longer needed as bank reserves.

While the possession of credit currency conveys the right of demanding its redemption in gold, those who want a medium of exchange would never demand gold in exchange for notes, since gold could no longer be turned into money at the option of the owner, but must be carried as merchandise. The demand for redemption would therefore naturally be reduced to the indus-

(Continued on page 40.)

Saving The Industrial Coal Pile

Millions and millions of valuable heat units are going to waste every day because of general lack of appreciation of the ease with which this waste in many establishments can be overcome

Written especially for AMERICAN INDUSTRIES

By T. F. MANVILLE

President, Johns-Manville, Incorporated

SUPPOSE you sent your messenger to the bank for \$29,000,000 in cash. Suppose he returned with only \$1,000,000 and contented himself by explaining that the other \$28,000,000 had been unavoidably lost on the way. Would you accept that explanation?

That seems like an absurd question, and yet many manufacturers are accepting a similar explanation on a closely analogous loss; the loss of power in the coal they buy, from the time it leaves the mine until it starts to turn a wheel. Twenty-eight out of the 29 million heat units are "unavoidably lost on the way."

The \$28,000,000 loss by your messenger would call out the police reserves, and would be hailed as a sensation. The loss of 28,000,000 British thermal units, from every ton of coal, is not so adequately appreciated, even in the face of a shortage of coal which will probably continue throughout the winter.

In the first instance, you would call in the detectives and hope for the best. In the second instance you can call in experts on insulation and combustion and immediately discuss means for reducing this enormous loss. British thermal units, in their relation to production costs, are as valuable as money, and should be saved.

The easiest way to visualize America's power shrinkage is to follow the fortunes of a ton of coal from the time it leaves the mine until its energy is finally converted into power. And the most exact way to follow what happens is to think in terms of the British

WHAT A PIPE CAN WASTE

(1) Under average conditions, one square foot of bare steam piping will waste more than 100 pounds of coal a year. (A two-inch pipe, two feet long, has a bare surface of one square foot.)

(2) A bare three-inch steam pipe, fifty feet long, under average conditions, will waste four tons of coal in a year.

(3) With a steam pressure of 150 pounds, and an outside temperature of 66 degrees Fahrenheit, a four-inch pipe ten feet long will waste a pound of coal every hour—the loss of 93 per cent. of which is preventable. (This is a ton every 83 days.)

heat. But by the time the ton gets to a crankshaft, the first point at which it does profitable work, the 28,000,000 have been lost.

A recent technical publication has shown that this is what happens in the inefficient plant and we must remember that a large percentage of the power plants of this country are inefficient.

The ton leaves the mine tippie with 29,000,000 British thermal units.

The furnace and boiler, first of all, exact a heavy toll, converting into steam only 10,837,000 British thermal units. More than half of its energy is gone already.

The steam, in turn, when it gets to the engine, has dwindled to 9,537,000 British thermal units.

And when the engine gets through, all that is left for the crankshaft, for the wheels that move industry, is the small total of 1,014,000 British thermal units.

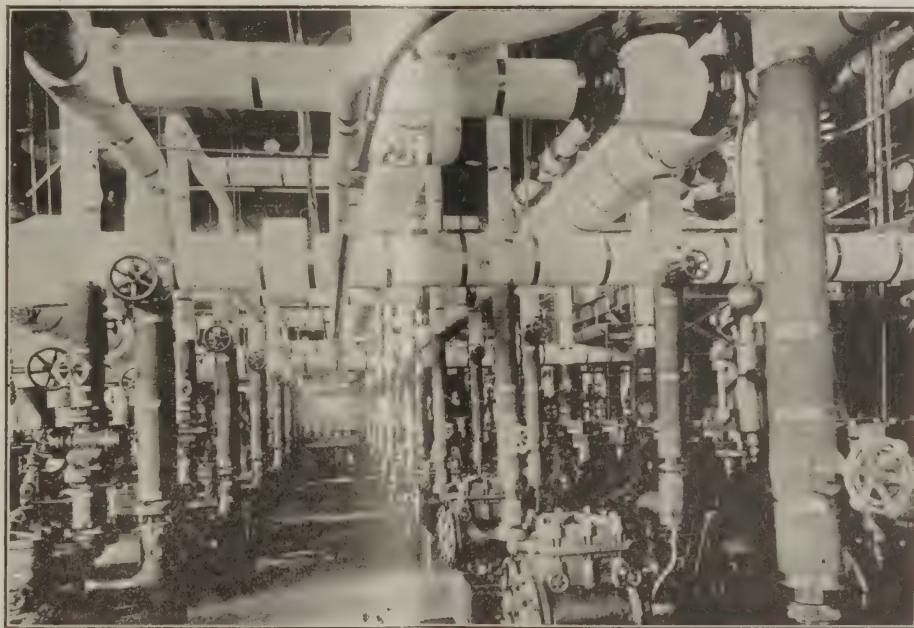
From mine to crankshaft, therefore, this ton of coal we have had under observation has lost 27,986,000 British thermal units, which amounts to the same thing as

throwing away nearly 28 shovels of coal for every shovel that is converted into power. It is a staggering loss, and it is a sad fact that almost half of this loss, for the present at any rate, can't be helped.

But more than half *can* be helped—14,044,772 British thermal units can be saved, and put to work.

In other words, half of the fuel that is now being wasted in the inefficient plant can be saved.

In the following table will be seen the actual losses that are preventable:



Saving great quantities of heat in the Freeport Sulphur Mines in Texas

thermal unit, which, as all manufacturers know, is simply the amount of heat required to raise a pound of water one degree Fahrenheit. (The public is fast learning the significance of this term, just as it learned to speak of calories during the war. It was decided to sell gas on this basis, in New York, only about a month ago.)

When the average ton of coal leaves the mine, it possesses 29,000,000 British thermal units, enough stored energy to raise the temperature of 453,125 cubic feet of water 1 degree Fahrenheit.

A. FURNACE		
Handling and weatherings.....	290,000	
Unconsumed coal in ash.....	1,136,800	
Radiation from furnace.....	852,600	
Chimney loss due to co.....	204,908	
Air leakage due to bad settings.....	2,842,000	
Air leakage due to poor firing.....	2,842,000	
Total furnace losses (British thermal units).....		8,168,308
B. BOILER		
Soot on outside boiler tubes.....	1,126,561	
Scale on inside boiler tubes.....	1,452,293	
Short circuiting of gases.....	322,732	
Improper draft regulations.....	1,116,800	
Total boiler losses (British thermal units).....		4,018,386
C. STEAM		
Leakage of water and steam.....	216,685	
Friction and radiation.....	866,742	
Total steam losses (British thermal units).....		1,083,427
D. ENGINE		
Condensation and radiation.....	715,063	
Friction in engine.....	59,588	
Total engine losses (British thermal units).....		774,651
TOTAL PREVENTABLE LOSSES		14,044,772

Ask an engineer how the saving can be effected, and he will be quick to point the remedy: insulation to prevent air leakage, to reduce radiation; gaskets and rod packings that pack without allowing leakage; steam traps that permit discharge of condensation without the loss of steam; sectional pipe insulation, other insulating materials of proper thickness and efficiency and scientific control of boiler and furnace operation.

Ask him, then, the basis upon which many such remedying materials are made, and he will say that it is asbestos.

Anyone who has ever sat in front of a theatre curtain knows that asbestos is a protection against fire. But it is not well enough understood, for the good of American industries, that as-

bestos is a protection against losses of fuel and power. When the simple fact is better understood, the United States will be in a position to save some of the hundreds of millions of dollars that are now wasted annually because of faulty insulation and other causes of loss.

The object of insulation is to prevent the flow of heat to outside air while it is being generated, stored, or conveyed. Asbestos is an ideal insulator. It will neither rot, rust nor burn. It is tough, flexible, and practically indestructible. As a mineral, and perhaps one of the oldest minerals known, it is unique.

It has a fascinating history, running back through countless ages, before there was any crawling thing on the

earth. Asbestos was made, the geologists say, under conditions of tremendous heat and pressure, at the time when this planet first began to cool.

A little over a thousand years ago, asbestos was largely used merely as a royal "parlor trick." Charlemagne, so the legend runs, had an asbestos table cloth, and used to bewilder his followers by throwing it into the fire, and pulling it out again cleansed and unmarked. In earlier times, the bodies of ancient kings were wrapped in mantles of asbestos when laid upon their funeral pyres, so that their revered ashes could be kept apart from the refuse of the fire.

As a commercial factor, asbestos is a development of comparatively recent date. It was introduced not long before the telephone; at a time within the memory of many now living. It was in 1878, in fact, the discovery was made of the Canadian deposits near Quebec; quarries which now produce about 85 per cent of the world's supply.

In its raw state, asbestos is a fibrous mineral that can be shredded by a finger nail into the finest of white fibers, as light and fluffy as the fiber in a milk-weed pod. From this fluffy material, without changing its inherent qualities of being fire-proof, rust-proof, and rot-proof, it is possible to make a wide variety of objects; ranging from a suit of clothes for a fireman to an ebony asbestos wood for electrical switchboards.

As a brake-lining, asbestos is a guardian against accidents. As a roofing shingle, it is a guardian against fire. And as efficient insulation and packing, it is a guardian for the nation's coal pile.

Huge Wool Stocks To Be Released

STOCKS of wool in bonded warehouses at the seaports have now reached a very high figure, the 100,000,000 pound mark having been passed at the end of July. This represents the culmination of a very heavy importation of wool for warehousing, which started at the time the embargo was lifted by the emergency tariff bill on May 27, 1921, and has continued without a break to the present. At the time the emergency bill went into effect, less than a million pounds of wool was being held under bond.

The reason for the fact that importers accumulated 100,000,000 pounds of wool in reserve here during a period of fifteen months, while the total quantity of foreign wools entered for immediate

consumption and taken from warehouses averaged only several million per month, was the anticipation on the part of importers for less onerous rates and appraising rules under the new tariff bill at the same time, raw wool prices were rising. Many factors in the trade declare that they have not been disappointed in their expectations and that by paying their duty after the new rate goes into effect, they are saving considerable sums.

Now that the great movement of wool into this country, at least as far as the bonded warehouse is concerned, may be considered to have passed its high point, the question of what effect a 100,000,000 pound reserve stock is likely to have on the general market sit-

uation must be considered. The important point to remember in this connection is that a large part of the warehoused wool has already been contracted for by manufacturers, who will now withdraw it for use. In other words, it has been stored in bonded warehouses instead of the manufacturers' bins and the free warehouses, inland, solely to put off payment of duty to the latest possible date.

The existence of this huge stock means that the market is to a large extent bought up for several months to come as far as foreign wools are concerned. The length of time over which this wool will be consumed depends, of course, upon the demand for woollen

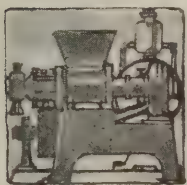
(Continued on page 37.)



Save!

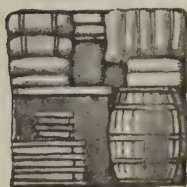
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Manufactures

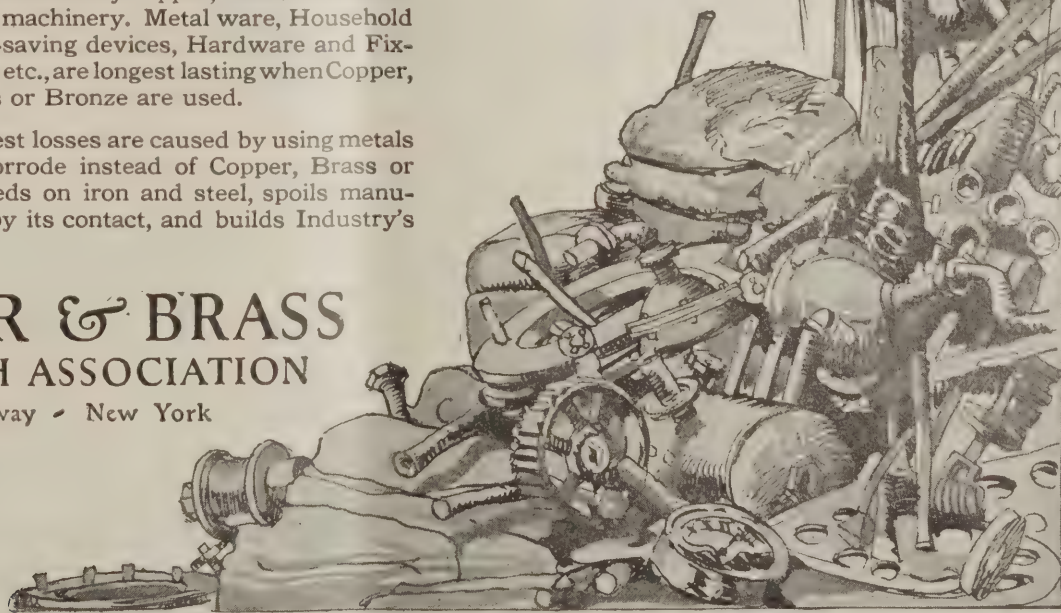


Foodstuffs, Textiles, Leather, Rubber — these and thousands of other articles of every-day use are better products through being handled by Copper, Brass or Bronze-fitted machinery. Metal ware, Household labor-saving devices, Hardware and Fixtures, etc., are longest lasting when Copper, Brass or Bronze are used.

Industry's greatest losses are caused by using metals that rust and corrode instead of Copper, Brass or Bronze. Rust feeds on iron and steel, spoils manufactured goods by its contact, and builds Industry's junk pile.

COPPER & BRASS RESEARCH ASSOCIATION

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Making It Safe For The Sand Hog

THE "sand hog," the toiler who delves under abnormal degrees of air pressure in the construction of tunnels or mine shafts with tons of earth and stone and perhaps a river or a bay over his head, is safer than he used to be, according to the United States Bureau of Mines. Health hazards which at one time were regarded as inherent in the occupation of shaft sinking and tunneling under the high air pressures necessary to keep back the water in wet ground and quicksand, have been greatly reduced. Observations made by Dr. Edward Levy, consulting physiologist of the Bureau, during the progress of tunnel work in and about New York City, indicate that the methods employed there have become so systematized and improved as almost to eliminate severe or fatal cases of compressed-air illness. The results of physiological studies made by the Bureau of Mines in the depths of its experimental coal mine at Bruceton, Pa., will be utilized in the construction of the vehicular tunnels to be built under the Hudson River between New

York City and New Jersey and in the twin vehicular tunnels now under construction at Pittsburgh, Pa.


Compressed-air work has assumed a place of enormous economic importance in modern engineering. Frequently deep-mining operations, subaqueous tunneling, and bridge building can be conducted only by the aid of compressed air. The construction of underwater tunnels or "tubes," the principal means of intercommunication between such large business centers as Manhattan Island and Brooklyn, would be impossible without it. The prosecution of these various activities requires the employment of numbers of men who must work under varying degrees of air pressure. The effect of compressed air upon the life, health, and efficiency of workers becomes, therefore, of increasing importance in the study of occupational diseases and the medical problems of industries. No thorough research has been done in this field in the United States. Knowledge of the cause, character, and treatment of compressed-air illness is still limited

to a very few physicians, and thus far little interest in the subject has been evinced by the medical profession at large.

Caisson disease, compressed-air, illness, or, more properly speaking, air embolism, is a condition caused by a too rapid decompression after exposure to higher pressures for a period of time. The symptoms of compressed-air illness are vertigo, difficult breathing, localized pains, affections of the central nervous system, and unconsciousness or collapse. The formation of gas bubbles of nitrogen in the body fluids and tissues is the accepted theory at present of the cause of caisson disease.

In an employment so hazardous as that of a "sand hog" some attention should be paid to the class of men best fitted for it, the Bureau of Mines declares. Actual experience has led to the conclusion that in the selection of men the essentials are normal lungs, normal kidneys, and a good heart; in the older men the blood pressure must not be high. In the selection of work-

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What are your ideas?

Your Suggestions?



INNOVATION FILMS

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Advertising Dept.

Member of National Association of
Manufacturers

men for compressed-air operations, the Bureau is not sure that advanced age is quite the important factor that many writers have insisted; neither is it considered that fleshy men are unduly susceptible to compressed-air illness.

WOOL STOCKS TO BE RELEASED (Continued from page 34.)

products here, only a very rough calculation of it being possible by comparison with consumption figures during the past year. Of carding wool, practically all of which is imported, approximately 9,000,000 pounds per month have been used in manufacturing in this country, the June figure being 8,987,600 and the July figure 9,583,915 pounds. Such a rate of consumption, if maintained, would indicate that there is now a full three months' supply of such wool in the warehouses.



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Motion pictures in industry will be effective only if they are intelligently produced and honestly distributed. They must tell your story accurately, briefly and in a picturesque manner. A motion picture which has for its main qualification merely length or "footage" is not worth the trouble and expense involved in its production.

Properly used, the motion picture is a most effective contact for general educational purposes; direct sales promotion, and for the development of the good will of the public and the employees.

F. Eugene Ackerman and has associates offer their services as editorial advisers to those manufacturers or associations of manufacturers who are contemplating the production of motion pictures that will tell the story of their industries. This organization does not produce motion pictures nor has it any affiliation with any organization engaged in this occupation. We supply skilled and competent editors experienced in the writing of scenarios, continuities and in the intelligent arrangement and distribution of motion pictures.

We protect the manufacturer against his lack of experience in a highly technical field. Conferences without obligation.

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Textile Mills A Big Market

COMPARATIVELY few who seek a market for their products in industrial establishments of all kinds are aware that textile mills are among the biggest industrial buyers in this country. They spend half a billion dollars annually for new mill construction, enlargements, machinery, equipment and supplies, exclusive of raw materials, according to the *Textile World*. The yearly construction average is 250 new mills and 300 additions.

The industry is second only to iron and steel in capital represented and in the value of its products. It employs more than one-eighth of the total motive power used by American industries.

There are one or more mills in each of the forty-five States. The total number, according to the official American Textile Directory for 1922, is 9,767. The greatest number in any one State—2,184—is in Pennsylvania.

The power plants of the textile mills are prospects for the sale of all kinds of coal and ash handling machinery, stokers, grates, boilers, settings, engines and turbines, feed-water heaters, steam specialties, pumps, valves, gauges, meters, recording and indicating instruments, fittings, piping, motors, generators and transformers and other power apparatus.

The industry's coal requirements are about 12,000,000 tons a year. More than one-third of its horsepower is electric, 60 per cent of which is generated by the mills in their own plants. Electrical apparatus of many kinds enters into the equipment.

Textile mills buy between \$5,000,000 and \$10,000,000 worth of belting every year—leather, canvas, rubber, composition, link or chain belts and rope—of every size. From the fact that there is more than 3,000,000 horsepower to be

transmitted, some idea may be gained of the immense amount of shafting, pulleys, hangers, bearings, couplings and other transmission machinery required as well as lubricants, belt dressings, fasteners and the hundreds of other devices for increasing the efficiency of power transmission.

Textile mill machine shops offer a market for lathes and drills, screw machines, milling machines, planers, shapers, grinders, taps and dies and other apparatus. A large amount of wood-working machinery is also used.

The textile industry is the largest user of piping, especially in dyeing, bleaching and finishing plants. More than half of the textile mills have their own humidifying systems. Piping repairs, alterations and extensions are going on continually, and many pipe-cutting, threading and bending machines are used. Between 15,000 and 20,000 barrels of paint are used each year in the textile mills.

Several tons of textile products must be moved daily from one department

to another by conveyor systems, trucks, tractors and trailers. For exterior work there is a market for trucks of all sizes, electric and motor driven, from light delivery to five tons.

More than \$15,000,000 worth of soap is used every year by the textile mills in processes of manufacture, aside from large quantities of hand-soap.

Ventilators, fans, blowers, etc., are used in huge volume. An average output of sixteen tons a day has to be packed and shipped from each mill—that means a vast quantity of shipping-room supplies. A large number of many kinds of pumps are used. Fire apparatus, both sprinkler systems and hand fire extinguishers, are in every mill. The textile industry is one of the largest consumers of brushes of all sorts. Filters and water softeners are widely used. Every mill is an important buyer of office and mill furniture.

The demand for building materials is almost incessant. Then there is call for second-hand machinery and supplies which runs into several million dollars a year.

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Asks Participation In Near East

*American Chamber of Commerce for the Levant calls upon the
Secretary of State and the Congress to see that the United States
takes active part in the conference to settle menacing problems*

THE American Chamber of Commerce for the Levant has called upon the Secretary of State and the Chairmen of the Senate and House Committees on Foreign Affairs to arrange for the active participation of the United States in the coming conferences to settle the Near Eastern problem.

This request is expressed in the form of a resolution passed by the Board of Directors of the American Chamber of Commerce for the Levant and is worded as follows:

WHEREAS, certain of the European powers by mutual agreement have for years enjoyed special privileges in the Near East greatly to the detriment of American business interests, which have been engaged in the pioneer work of building up trade between the United States and the countries of the Near East, and

WHEREAS, a conference is soon to be held for the purpose of settling political differences arising out of the clash between Greece and Turkey, at

which conference the principal European powers will be represented, each endeavoring to continue and strengthen its economic and commercial control over Turkey, Greece, Syria, and other parts of the Levant, and

WHEREAS, the continuation and extension of such control would be manifestly injurious to American interests now engaged in business or in other activities in the Near East, and to others desirous of engaging in sundry activities there.

Be it therefore,

Resolved, that the American Chamber of Commerce for the Levant, which comprises in its membership a large majority of the American houses doing business in the Near East, urges upon the Government of the United States the necessity of protecting American interests in the Near East by participating in any conference that may be held for the purpose of settling political and economic problems in that part of the world, and by the appointment of accredited envoys to represent the

United States at such conference, or conferences, not only as observers, but for the purpose of active participation on behalf of the United States

Among the important officers and members of the American Chamber of Commerce for the Levant are: J. M. Dixon, President of the Tobacco Products Corporation; L. I. Thomas, of the Standard Oil Company, of New York; Philip De Ronde, President of the Oriental Navigation Company; Franklin Remington, of the Foundation Company; Oscar S. Straus; L. N. Hine, President of the American Cotton Oil Company; John Aspegren, of Aspegren & Company; Ernest Bull, of A. H. Bull & Company; J. A. Emmons, of the Emmons Coal Mining Company; I. C. Gary, of the Gary Tobacco Company; Norman J. Gould, of the Goulds Manufacturing Company; Ernest B. Filsinger, of Lawrence & Company; J. F. Lucey, of the Lucey Manufacturing Company; H. M. Green of the Manhattan Rubber Manufacturing Company; W. B. Nichols, of Minot,

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Dr. E. E. Pratt, secretary and managing director of the Chamber and formerly chief of the Bureau of Foreign and Domestic Commerce, in discussing the situation said:

"Under the Treaty of Sevres, the Greeks were authorized to take possession of Smyrna and a considerable slice of territory immediately surrounding it. Constantinople was internationalized and placed under a joint Allied Commission. The Turkish nation was practically forced back into the interior of Asia Minor. This looked like the end of Turkey.

"But the Allies had reckoned without Mustapha Kemal, an inrepid Turkish cavalry leader, who rallied to his standard the remnants of the manhood of Turkey. He established a new Turkish capitol at Angora, in the center of Anatolia, and took as his slogan, 'Turkey for the Turks.' And thus began the Turkish Nationalist movement,

which has just been crowned by victory.

"The Greeks, most unwisely, sought to extend their territory in Asia Minor and to build a new Greek empire. They extended their lines of communication until success became impossible and defeat a certainty. Greece must now give up her imperial ambitions, and again be Greece. But the war in Asia Minor is finished unless the European powers step in and prolong it."

UNEMPLOYMENT AND SOME CAUSES

(Continued from page 32.)

trial use of gold which can readily be met by a comparatively small store. Hence the plan here proposed for putting an end to unemployment and restoring lasting prosperity is entirely feasible.

The above indictment applies only to banks of issue. Deposit banks perform a useful service to the business world and, not being protected by law in the exercise of any monopoly, their incomes are even now subject to competition. Since those incomes accrue principally from interest and discounts, it would appear that a material reduction of interest rates would render their existence precarious if not impossible. This would however not be the case, for they would naturally cease to render their services—the clearing of checks—gratuitously, as they do now, but would make a charge for each check to be collected either from depositors of checks or, as would be more reasonable, from their patrons for each check they draw on the bank. Their income would then be proportional to the amount of work they perform, as is the case with all industrial enterprises.

Returning to the main subject of the paper, the recent fall in the current rate of interest may make it possible for business to rally somewhat from the present slump, but if it does, the revival can hardly be more than partial and is likely to be followed shortly by a more severe decline, unless the indicated remedy is applied, at least in part. The prognostication of impending disaster is based upon logical deduction and not mere superficial judgment, or opinion more or less influenced by desire. The argument should not be brushed aside simply because its conclusions challenge opposition from conservative quarters. It merits impassionate consideration.

CONTEST FOR SOUTH AFRICAN TRADE

The Union of South Africa, because of its position in the British Empire, the extent of its undeveloped resources, and its growth as a consuming market,

is increasing in importance as a factor in world trade," says the National Shawmut Bank of Boston, in its current Foreign Trade Review. "This market has not, in the past, been fully appreciated by our exporters. In addition to its trade possibilities, it offers opportunities for investment of capital in the development of the varied natural resources of the country, in promoting the growth of manufacturing industries, and in filling the need for public utilities of every kind. Previous to 1913 our trade with South Africa had grown slowly but steadily. The disturbance of commerce due to the war brought about an increase in our trade with that market, and aroused the interest of a number of our exporters to its possibilities."

In the year ending December 31, 1921, the total commerce of South Africa amounted to approximately \$600,000,000. This figure, however, because of business depression, was considerably lower than the total for 1920, which reached \$900,000,000. Of this latter amount, almost \$500,000,000 represented the imports into the Union. Imports of cotton manufacturers in 1920 amounted to \$48,000,000 in value while imports of hardware, cutlery, machinery, agricultural implements, and iron and

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steel manufactures amounted to \$70,-000,000. \$15,000,000 worth of boots and shoes were imported in that year; and \$20,000,000 represents the value of imports of automobiles and parts. Exports of wool for 1921 amounted to 230,000,000 pounds, an increase of fifty per cent over 1920. About 40,-000,000 pounds of hides, goat and sheep skins are now exported annually. Exports of sugar, last year, jumped from 32,000,000 pounds in 1920 to 138,000,000 pounds.

It is not surprising that competition for a market of this character should be keen. Some estimate of that competition may be obtained from a brief review of the trade of the Union in 1903, 1913, and 1921.

The following table compiled by the Standard Bank of South Africa, Limited, shows the percentage of South Africa's imports supplied by various countries in 1921, 1920, and 1913, and indicates our improved position in the South African field.

	1921	1920	1913
	Per cent	Per cent	Per cent
United Kingdom	54.7	53.8	54.4
Canada	2.8	2.9	2.2
India	3.4	2.8	2.8
Australia	2.7	4.2	5.2
Other British Pos'ns..	1.4	2.7	1.7
Holland	1.1	0.8	2.2
Sweden	2.0	2.2	1.8
Japan	1.5	1.5	0.3
Germany	2.3	0.9	8.8
United States	16.0	18.2	9.5

Our greatest gains since 1903 have been made in supplying agricultural implements, machinery, manufactures of steel and motor cars. The development of agriculture and the manufacture of food stuffs in the Union have reduced our former sales of grain and other commodities. As a result, our exports are now of a character to bring them into competition with the products of Great Britain, Germany and Japan.

The figures covering imports and exports, while suggestive, do not indicate the real position attained by the United States in the South African market. It is, of course, obvious that the depreciated value of the British pound was instrumental in cutting down our trade last year. It is also a fact that during the war many lines of merchandise could not, as formerly, be obtained from England. During that period the depreciated value of the pound was disregarded when necessity compelled the ordering of American goods. The decline of the pound below \$4 was very naturally followed by a sharp contraction in new business. As the pound approaches parity, however, there is every reason for us to expect that the effects of this handicap will be removed. Improve-

To The American Merchants and Manufacturers

Who May Need Active Representatives in Chile

We offer ourselves as agents for the sale of your goods, textiles, knittings preferred. We are members of the National Chamber of Commerce of Valparaiso, and of the Sociedad de Fomento Fabril de Santiago.

We have been established since 1900 as custom house brokers, forwarders, commission merchants and representatives of foreign concerns, for which reason we have great experience and are well acquainted with all kinds of textiles and enjoy good connections with the trade of this country; many of our customers import from your country all kinds of textiles, knitted underwear, ribbons, gloves and other articles for ladies and gentlemen, and they would favor us with their orders.

We Accept Orders for the Purchase of Any Chilean Products

QUOTING BY CABLE

We also accept merchandise on consignment.

In regard to our responsibility, satisfactory information could be obtained from all the banking houses in Valparaiso, and especially from the Banco Espanol de Chile, Banco Aleman Transatlantico, Banco de Chile y Argentina and Banco Italiano, institutions in which we carry current accounts.

We offer careful attention to correspondence in English, preferring to receive it in Spanish.

Other references in the United States: Banca Commerciale Italiana, New York.



Balamanca & Gasto

CALLE O'HIGGINS, No. 25
VALPARAISO, CHILE

Cable Address:
"Saldacia"
Liebers and A B C 5a Ed.

P. O. Box 554
Valparaiso



We made the most successful industrial motion pictures produced during 1921

"Across the Atlantic on a Giant Liner"

A delightful scenic, for the International Mercantile Marine Company.

"Scientific Protection"

Showing the history and development of the safeguarding of valuables, for the Mosler Safe Company.

"Good Teeth—Good Health"

A lesson in dental hygiene, made for Colgate & Company.

"A Grand Spread"

The story of Spredd, nut margarine, to help solve the sales problems of E. A. Stevenson & Company.

"The Making of Soap"

An educational film for Kirkman & Son. *These five are merely typical*

Our Industrial Department is equipped to render to the advertising and sales departments of manufacturers, trade and public welfare associations and public service institutions a complete service, including writing the scenarios, taking the pictures, making the prints, arranging distribution and supplying New Premier Pathéscope projectors.

The New Premier Pathéscope can be used by any of your men, anytime, anywhere. It is so *exquisitely built* that its large, brilliant, flickerless pictures amaze expert critics. It operates on any electric light current, or from a storage battery.

Weighs only 23 pounds; can be carried in a small suitcase.

The New Premier Pathéscope uses only "Safety Standard" narrow-width film. The Underwriters' Laboratories, Inc., have set their Approval Seal on every "Safety Standard" film and Pathéscope projector. *They are safe.* No fireproof booth or licensed operator is required.

Ordinary film is dangerous and the use without a fireproof booth, of any projector *capable of using* inflammable film is a violation of State, Municipal and Insurance restrictions, *no matter by whom approved.*

New Premier Pathéscopes are used with eminent success by the following concerns, most of whom selected them after careful comparison and many after unfortunate experiences with other portable projectors.

American Mutual Liability Ins. Co.
Association of Ice Cream Supply Men
Babcock & Wilcox Company
Baldwin Locomotive Works
Boston Woven Hose & Rubber Co.
Economist Film Service
General Electric Company
International Correspondence Schools
Lock Joint Pipe Company
National Biscuit Company
National Cash Register Company
Otis Elevator Company
Plymouth Cordage Company
Robins Conveying Belt Company
Charles A. Schieren Company
Tide Water Oil Company
United Drug Company
and many others.

We shall be glad to explain and demonstrate the Pathéscope Film Service, either in your office or at the Pathéscope Salon

Write for booklet "Selling With Motion Pictures."

The Pathéscope Company of America, Inc.

Willard B. Cook, President

Agencies in Principal Cities

Suite 1852, Aeolian Hall, New York City



MEMBER



ment in this respect may be followed by an increase in our trade with South Africa.

Trade between South Africa and the United States, should, if properly handled, become more and more reciprocal in character. We need her products of hides, skins, wool, chrome ore, tin, corundum, and asbestos. We have been taking about 50,000,000 pounds of South African wool annually, or about one-third of her total product. The United States is the principal market for South African exports of diamonds; although shipments of these goods are made through England and do not appear in the figures for our trade. It is to be regretted that nearly all of our purchases from South Africa in the past have reached us by shipments through Great Britain. Consequently they do not appear in published statistics of South African trade and as a result we have suffered through loss of identity as a good customer.

BELGIAN STEEL ACTIVE

The Belgian steel industry is beginning to feel the reflex of industrial disturbances in the United States, declares acting Commercial Attaché Cross, in a cablegram to the Department of Commerce from Brussels.

The American strikes, he stated, have caused a considerable increase in export orders and consequently in the amount of production facilities. Blast furnaces have increased from twenty-seven on August 1, to thirty operating on September 1, producing 588 tons foundry pig and 5,445 tons basic pig every twenty-four hours.

"The number of furnaces now in blast is higher than at any time since the armistice," the cablegram reads. "Pig iron prices are favorably influenced by increased consumption in local foundries and transforming plants, by German orders and by considerable demand from both Atlantic and Pacific Coast points of the United States, one week of August seeing the shipment of 10,000 tons of foundry iron to American destinations.

"Several producers are now working with three shifts. Some labor unrest is apparent, and it is probable that if the present favorable situation continues the most recent 10 per cent reduction may be canceled.

"Strong British buying is causing further price advances in semi-finished steel; this is probably due to purchases by customers who are desirous of profiting by the continued advance of sterling to cover the raw materials. Native jobbers also have increased their stocks, thus contributing to strengthen the finished steel market. Large purchases

American manufacturers interested in reorganizing or reshaping an already established

**DIRECT
EXPORT BUSINESS**

or in going after it on a sufficiently vast scale, or in a level-headed, ambitious — neither pessimistic nor unduly optimistic—manner, are invited to send their names, with indication of the official to be communicated with and also the nature of products (if not obvious), and by circular matter already prepared, they will at once receive preliminary information.

A. HOBEC

1485 Metropolitan Avenue
Brooklyn, N. Y.

Attention Manufacturers!

Through plans now being formulated we hope soon to be able definitely to announce to the Manufacturers of the United States, that we are in a position to offer the largest Motion Picture Theatre and non-Theatrical circulation for "Industry" and "Product" Films ever before thought possible.

The average daily attendance in the Motion Picture Theatres throughout the United States is in the millions.

Your films would reach a definite percentage of this tremendous circulation.

We offer our expert advice as Screen Advertising Specialists in the preparation of your Motion Picture Advertising Campaign without charge to the Manufacturers.

We will co-operate with you in the preparation of your advertising material such as, Scenarios, Continuities, Production, Distribution, and submit a comprehensive approximate estimate of the cost of the necessary appropriation.

We invite correspondence. What are your ideas?
Your Suggestions?

INNOVATION FILMS

1834 Broadway Adv. Dept. New York
Member of National Association of Manufacturers

of rounds being noted for reinforced concrete construction, which is now in process.

"Since the close of August the sheet and plate market is improved, with rising prices on light and galvanized varieties. The prices of the latter are high, due mainly to advanced quotations on zinc. Among standard products Belgian foundry No. 3 is quoted at 220 to 230 francs per metric ton, and basic at 215 to 220, an advance of ten francs since August 15. Bessemer ingots are quoted at 305, blooms are steady at 320, billets at 340, sheets and bars at 360 and 365, with open hearth blooms correspondingly advancing to 325 and with other open hearth products unchanged.

"Finished steel bars are similarly improved in tone to 43.50 francs per 100 kilos for export, and rods are now quoted at 50. Open hearth bars for machinery have advanced 3 francs per 100 kilos to 49 under increased demand from construction plants. Bessemer sheets five MM and up rose fifty centimes per 100 kilos to 47 francs."

FASTNESS OF YANKEE DYES

An object lesson in the fastness of American dyes will feature the exhibit of E. I. du Pont de Nemours & Company at the Southern Textile Exposition to be held in Greenville, S. C., from October 19 to 25. The du Pont exhibit will show a variety of fabrics—about twenty-five different styles—including gingham, chambrays, prints, shirtings (both woven and printed), romper cloth and other materials made into duplicate garments. One set of these garments will have been given repeated washings by a reliable laundry, and will have attached the affidavit of the laundryman stating the number of times they have been washed. Visitors will then be able to compare the garments which have been subjected to washings with those which have not been washed and observe how the colors maintain their fastness and brilliancy.

In addition a household washing machine will be installed in the booth, and demonstrations will be conducted during the show under competent direction. After the garments have been ironed, as they would be in practical everyday use, it will be possible to see the actual treatment such materials get during the laundry process.

A portion of the booth will be occupied by lay figures displaying some of the garments and another section will serve for further display, and for a rest room.

**Your
Motion Picture?**

Is it in circulation? Or lying useless in your vault? Are you fully satisfied with it?

Is it up-to-the-minute technically as well as artistic?

The intelligently thought-out and carefully produced motion picture is a super-salesman. It brings to the attention of the prospective purchaser of any commodity, the elusive something the salesman, no matter how clever and intelligent, fails to put over.

The motion picture is a definite branch of publicity and merchandising. Many a campaign is incomplete without it. Printed publicity is a powerful force, but each reader visualizes it in accordance with his individual understanding. The motion picture does this for him more effectively.

Let us "reincarnate" that film you are so disappointed about. And help you get it in circulation. Let it again be your most effective salesman. Turn a liability into an asset.

We also conceive plans, construct scenarios and produce new motion pictures for both standard and safety size projectors. Our experience and equipment is complete.

Write us to-day about that motion picture problem.

We have the solution.

SAMUEL A. BLOCH

1493 Broadway New York, N. Y.

To Attract 100% Attention Tell Your
Story With Motion Pictures

FOREIGN TRADE OPPORTUNITIES

The inquiries for American goods received by the National Association of Manufacturers from abroad will now appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

NEW ORLEANS

Cotton mill machinery, road making machinery, coffee, sugar and printing machinery; leaf tobacco, cotton and woolen textiles, hardware, canned foods, lard, soap and groceries, novelties, paper and vehicles. The inquirers are a trading concern in the South of the United States. (512)

COLOMBIA

Machinery for making tin containers for gun powder. Manufacturers in Colombia immediately desire catalogues, prices and detailed information. Correspondence in Spanish. (520)

URUGUAY

Everything Manufactured. — The inquirer in Montevideo desires American agency connections. Correspondence in Spanish. (515)

AUSTRALIA

Mechanics' fine tools, axes, cooking utensils, aluminum and other, long handled shovels, essences and flavors, dental requisites, and veneers are lines of goods which a long established firm of commission agents in Australia desire to handle for Australia or sections thereof. (529)

Hardware. A long established and energetic firm of manufacturers and agents in Melbourne desires to add one more line to the agencies already held by them, this line to be preferably in the hardware or iron and steel specialties. (530)

PORTO RICO

Confectionery, cigars and cigarettes for Porto Rico. The representative of an American dry goods firm wishes to add the above lines to his present representations for Porto Rico. Correspondence in Spanish. (508)

COSTA RICA

Cotton goods, silk goods, groceries, oils, kerosene, petroleum products, crockery, steel products, all classes of machinery, automobiles, typewriters, adding machines, victrolas, leather, all classes of paper, flour, rice, coffee bags, etc. The inquirer in Costa Rica desires American agency connections. Correspondence in Spanish. (514)

CUBA

Machine tools, industrial machinery generally, and particularly fuel saving devices, together with mechanic's tools and hardware, are lines which a Cuban gentleman (American citizen), who is well acquainted with these lines desires to handle on a commission basis. (541)

An electrical sign about 8 ft. 4 ins. long by 1 ft. 8 ins. wide with 18 letters to be visible on both sides, current of 110 volts, alternating, and timed to 60 cycles. A party in Cuba desires specifications and prices including all charges. (536)

Cardboard, also shoe brushes are of interest to a firm of merchants and shoe manufacturers in Cuba. (524)

Information regarding dyes are required by a dyeing establishment in Cuba. (547)

GERMANY

Copper rods for Germany. A German manufacturer of drying apparatus of various kinds desires quotations. (525)

ITALY

Materials of all kinds for the manufacture of soap for Italy. The inquirer desires American agency connections. Correspondence in French. (509)

AFRICA

Cotton and woolen textiles of all kinds, perfumery, fancy goods, haberdashery, hardware, enameled kitchenware, stationery, toys, provisions, fishing nets, etc. A firm of general traders in Africa desires to hear from American manufacturers. (516)

SOUTH AFRICA

Automotive accessories, tools, hardware specialties and electrical articles are lines which a gentleman long experienced in business in South Africa desires to handle for that region as the direct representative of the makers. He is now in the United States, and interviews with him can be arranged up to the end of September. (511)

Women's hosiery in lisle, artificial silk and silk; underwear and union suits; prints, dress materials, flannel-ettes, and all classes of silk, cotton and piece goods, are articles which a long established house of import and export agents in Johannesburg are particularly desirous of handling as a product of American materials, if prices will meet competition. (542)

PORTUGAL

Yarn, carded and mercerized cotton, artificial silk, raw cotton, woolen waste, woolen silk, cotton and linen textiles, laces, hosiery and knit goods; also machines for making hosiery and underwear; silk and zephyr looms, knitting machine needles and machinery, and raw materials for the manufacture of textiles generally. Are of interest to a firm of merchants and importers. Correspondence in Portuguese. (510)

TURKEY

Cotton-seed oil for Turkey. The inquirers desire to secure American connection in the above line. (523)

FRANCE

Proprietary medicine manufacturers are invited by a business house in France to take advantage of its manufacturing facilities, which have been secured from the United States especially for the purpose of manufacturing proprietary medicines. The owner, through the American Chamber of Commerce in London, says: "It is my purpose, in view of the special conditions which apply to France in regard to the sale of proprietary medicines, to manufacture, and also to place on the market, all classes of American proprietary lines, and I shall esteem it a favor if you would refer any American firms to me who may contemplate exploiting the French market. As you are aware, France and its Colonies and Protectorates, all come under the French law which necessitates the name of a French chemist being placed on the articles, and who is responsible to the Government and who must take some part in the manufacture. I could either manufacture the goods for clients, or they could send their own chemist to manufacture and retain the secret of their formulae. The goods would be manufactured under my control and I would undertake the sales for France, the French Colonies and Protectorates, entirely on a commission basis." (549)

Lawn mowers for France. The inquirers desire catalogs and prices. (522)

INDIA

Textiles, embroideries, cutlery, hardware, ironmongery, chemicals, glassware, etc. A firm of agents in India desires catalogs, prices and other information. Correspondence in English. (518)

Hardware, machinery, dyes and chemicals, hosiery and paper are articles of especial interest to a firm in India, who through the British Empire Chamber of Commerce in the United States say they are in the wholesale trade, distributing to up country markets, and "by virtue of having first-hand knowledge of the market requirements can always render valuable services to American exporters and importers." Good bank references are named. (528)

SYRIA

Ice making machines of small capacity, say fifty to sixty pounds per hour are of special interest to a long established importer in Syria. Correspondence in French. (532)

ENGLAND

Electrical specialties for domestic use and wireless receiving sets and D. P. snap switches are of particular interest to a British firm of manufacturers representatives who would be glad to hear from American makers of such apparatus, desirous of finding a market in the United Kingdom. (535)

CHILE

Kitchen accessories, particularly galvanized iron water boilers, various parts of stoves, portable ovens, etc., and kitchen furniture in metal are articles regarding which a Chilean manufacturer of coal and wood stoves, kitchen utensils and furniture, long established, is very much interested in receiving catalogs and information from American manufacturers, with whom he states he would like to place orders for the manufacture of parts from his own models after receiving their catalogs. Correspondence in Spanish. (539)

JAPAN

Watchmaking machines and wireless telegraph and radio apparatus are of interest to a firm of importers in Japan. (513)

Ice cream manufacturing apparatus is inquired for by Japanese firm of exporters and importers, who also act as manufacturers' representatives. (537)

Steam engines, gas and Diesel engines, refrigerating machinery, road building apparatus, light type automobiles, light auto trucks, are articles which a long-established firm in Japan is interested in and desires to be placed in touch with American manufacturers of these lines. (544)

SPAIN

Representation in Spain in the lines of raw materials for the paper, rubber and textile industries, soap making and also drugs in general, is desired by a commission agent in Spain, established in 1909, who furnishes good references. (548)

BELGIUM

Automobiles and automobile accessories are of special interest to a firm who are said to be fast developing one of the most important automobile garages of Ghent. The firm is also able to furnish the best of references and is in a position to give guarantees which exporters may desire. (526)

MEXICO

Enameled ware is sold in large quantities in Mexico and according to one firm in Mexico City, "the German competition is dead for the time being on account of inability to deliver and also due to the exchange which has compelled that country to raise prices. The enamel in demand is of the grey kind and if you could put us in touch with a firm which makes this we would appreciate it very much." (538)

An agent with several years of residence in Mexico, Cuba and Haiti, speaking English, French and Spanish, desires to represent manufacturers in Central and / or South America. He is willing to specialize, and in that case would be willing, for a short while, to work in the particular factory. (534)

Apple and grape juices and cat-sup are lines of goods which a Mexican firm of importers, exporters, commission merchants and consignees desire to import direct from first hands. (540)

Optical apparatus, electrically operated, suitable for grinding fancy glass work is asked for by an expert in mirrors and fancy glass grinding in Mexico. (545)

Automatic slot machines for vending chewing gum and similar articles are of particular interest to a merchant in Mexico. Correspondence in Spanish. (533)

Small Ironing Machines, using rolls one meter long, as those used in laundries; the rolls heated by means of gasoline jets or by electricity. The inquirer corresponds in Spanish. (527)

Photo medallions of celluloid, with or without metal backs, and with watches inserted, also metal frames, silvered, for photographs and pictures, are of interest to a manufacturer's agent in Mexico. (519)

SALVADOR

The municipal engineer of a city in Central America is desirous of having full data from manufacturers of supplies for pipe lines, pipe fittings, cement, lumber, metal sheets, paints, nail, plumbing supplies and other articles needed for improving the water service, including meters and filtering apparatus. The municipality desires to place its orders direct with manufacturers. (546)

Official International Organ of the National Association of Manufacturers

EXPORT

Formerly Export American Industries

Covers the largest buyers in all the great markets of the world with its separate English, French, Spanish and Portuguese editions.

The established policy of EXPORT is to center the interest of foreign readers on American-made goods and thus effectively promote an increase in our foreign trade

THE CIRCULATION IS AUDITED BY THE A. B. C.

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India
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Mesopotamia
Siam

Straits Settlements
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Rep. Dominicana
Dutch W. Indies
Ecuador
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Honduras
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South America
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Azores and Madeira
Portuguese Asia
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In addition to that comprehensive distribution in all the purchasing centres of the world to actual buyers of American-made goods EXPORT offers to advertisers:

- 1st—A semi-monthly bulletin service—FOREIGN TRADE TO-DAY—with up-to-date items on exports and inquiries from high-class foreign buyers of American goods.
- 2nd—Carefully selected lists of firms throughout the world for use to supplement the advertising space.
- 3rd—Credit reports and translations at cost.
- 4th—Expert assistance on export problems.
- 5th—Advertising layouts and copy suggestions.

Further information about the publication and sales possibilities for various commodities in foreign markets on application to

EXPORT

The Official International Organ of the National Association of Manufacturers

PHONE: CORTLANDT 7886

50 CHURCH STREET, NEW YORK CITY

AMERICAN INDUSTRIES

Our Business Dominions---Panama

By Col. JAY J. MORROW
Governor, The Panama Canal Zone



NOVEMBER
1922

Volume XXIII
No. 4

OTHER FEATURES:

ROMANCES OF INDUSTRY—ANTHRACITE
GREAT PORTS OF THE NATION—SEATTLE
DO OUR COASTWISE LAWS MENACE THE PHILIPPINES?
LEGAL BACKGROUND OF STRIKE INJUNCTIONS
ENDING THE HARDWOOD LUMBER WASTE

Published for the National Association of Manufacturers

A SAFE BRIDGE

INVESTED CAPITAL

EARNED DIVIDENDS



HAVE YOU A GOOD INDUSTRIAL MOTION PICTURE

**YOU WISH DISTRIBUTED FREE
TO A GENERAL FIELD?**

- A picture that tells the story without waste of time.
- A picture that will hold the audience for fifteen minutes.
- A picture that is of strong and continuing interest.
- A picture that is of instructional value.
- A picture that is not more than 1000 feet long.

If interested write to the

Motion Picture Bureau

National Association of Manufacturers

50 Church St., New York

AMERICAN INDUSTRIES

ENTERED AS SECOND-CLASS MATTER AT THE
NEW YORK POST OFFICE

REGISTERED IN U. S. PATENT OFFICE

MEMBER OF AUDIT BUREAU OF CIRCULATIONS

PUBLISHED MONTHLY BY

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No. 4

IN THIS ISSUE

	Page
Cover photograph: United States ship passing through the Panama Canal.	
OUR BUSINESS DOMINIONS—PANAMA - - - - -	5
By Colonel Jay J. Morrow, Governor of the Panama Canal Zone.	
LEGAL BACKGROUND OF THE STRIKE INJUNCTIONS - - - - -	9
By Paul Bakewell, member of the St. Louis Bar.	
ARE THE PHILIPPINES MENACED BY THE COASTWISE SHIPPING BILL? - - - - -	11
By Vicente Villamin, Secretary, Philippine-American Chamber of Commerce.	
ROMANCES OF INDUSTRY—ANTHRACITE - - - - -	13
By E. W. Parker, Director, Anthracite Bureau of Information.	
ENDING THE HARDWOOD LUMBER WASTE - - - - -	17
By Landon C. Bell, Chairman, Publicity Committee, Hardwood Manufacturers' Institute.	
GREAT PORTS OF THE NATION—SEATTLE - - - - -	19
By Harold Crary, Assistant Secretary, Seattle Chamber of Commerce.	
EDITORIALS - - - - -	24
BUILDING LEADS ACTIVITIES - - - - -	26
SEES NEED OF A POLICY FOR THE COAL INDUSTRY - - - - -	27
By James A. Emery, General Counsel, National Association of Manufacturers.	
BITS OF NEWS ABOUT MEN IN INDUSTRY - - - - -	28
OPEN FORUM FOR READERS OF AMERICAN INDUSTRIES - - - - -	29
MAKING POTATO FLOUR PROFITABLE - - - - -	31
By W. A. Noel, M.E., Associate Development Engineer, Bureau of Chemistry, Department of Agriculture.	
WORLD TRADE - - - - -	38
FOREIGN TRADE OPPORTUNITIES - - - - -	41
ITALY'S FARM MACHINERY INDUSTRY - - - - -	45

BUY IT FROM THE NAVY

10,000,000 Pounds of STEEL TUBES
AND TUBING

ON

WEDNESDAY, NOVEMBER 22, 1922

CONSISTING OF APPROXIMATELY:

2,751,464 pounds of Unused STEEL TUBING

In 11 lots: namely, No. 1, Standard; No. 2, Special; No. 3, Mild-Hot Rolled; No. 4, Military Mast; No. 5, Galvanized; Seamless, No. 6, Plain; No. 7, Square; No. 8, Cold-Drawn; No. 9, Hot rolled; No. 10, Annealed; No. 11, Galvanized. Ranging in size from $\frac{1}{4}$ " by .0187" to 15" by .250", in various grades, dimensions and thicknesses.

7,250,000 pounds of Unused STEEL BOILER TUBES

In 24 lots; namely, No. 12, Standard; No. 13 Hot Rolled; No. 14, Swelled on One End; No. 15, Swelled on Both Ends; Nos. 16, 17, 21, 25 and 26, Seamless (Plain, Bent, and for Yarrow Boilers); Nos. 18, 19 and 20, Stay (Plain, and Swelled on Both Ends); Nos. 22, 23, 27, 28, 29, 30 and 35, For Ward Boilers; No. 32, For Donkey Boilers; No. 33, For Super-Heaters; No. 34, For Oil Coolers.

Ranging in size from $\frac{1}{2}$ " by .035" by 23 to 4" by .236" by 90, in various grades, dimensions and thicknesses.

Materials are located at Naval Depots on the Atlantic and Pacific Seacoasts. Bids will be considered on any (1) lot, or (2) lots, or on all lots located on (3) the Atlantic, or (4) Pacific Coast, or on (5) all lots without reference to location.

Write or wire for descriptive Catalog No. 145-B, giving detailed locations, quantities, sizes, and terms of sale, to any of the following, who will also arrange for inspection.

Supply Officers at Navy Yards

Boston, Mass.	Philadelphia, Pa.	Puget Sound, Wash.
Norfolk, Va.	New York, N. Y.	Mare Island, Cal.
Naval Training Station, Great Lakes, Ill. Board of Survey,		
Appraisal and Sale, Naval Supply Depot, S. Brooklyn, N. Y.		

Bids on this sale must be in the form given in the above Catalog No. 145-B. Bids should be plainly marked and addressed to the undersigned, where they will be publicly opened at 11:00 A. M., Wednesday, November 22, 1922.

U. S. NAVY CENTRAL SALES OFFICE
NAVY YARD, WASHINGTON, D. C.



Develop Your Business and Export Trade in Canada

If you are considering the establishment of your industry in Canada, either to develop your Canadian business or export trade, you are invited to

**Consult the Development Branch
of the Canadian Pacific
Railway**

An expert staff is maintained to acquire and investigate information relative to Canadian industrial raw materials. Any information you may require as to such raw materials as well as upon any practical problems affecting the establishment of your industry including markets, competition, labor costs, power, fuel, industrial sites, etc., will be given free of charge or obligation.

Write to the

**CANADIAN PACIFIC
RAILWAY**

DEPARTMENT OF COLONIZATION AND
DEVELOPMENT

WINDSOR STREET STATION

MONTREAL

American Industries

D.M. Edwards, Editor

Vol. XXIII

NOVEMBER, 1922

No. 4

Our Business Dominions—Panama

The United States' zone between the two Americas, with its tremendous development to meet every requirement of shipping, is bound to have a future relation with every state in the Union.

Written especially for AMERICAN INDUSTRIES

By Col. JAY J. MORROW
Governor, The Panama Canal Zone

THE Canal Zone as an area is negligible. It occupies only some 500 square miles, less than many counties in the United States, and has no appreciable resources. At prevailing prices for undeveloped tropical land it is probably worth \$500,000. Its importance lies solely in its being a strip extending five miles on either side of the Panama Canal.

The importance of the Panama Canal is in two elements. One is as a short-cut in transportation. The other is as an adjunct to the national armament. In both of these the influence which the Canal will exert in future years is simply incalculable. It is so wrapped up with the national development that the Canal from now on must be one of the factors in history.

Ten coastwise steamship lines are plying back and forth between the Atlantic ports of the United States and the Pacific ports of the country. Together they average nearly two ships a day through the Canal. They carry over 7,000 tons of goods through the Canal each day, the loading of 500 carloads. These goods come from as far inland as Pittsburgh, Detroit and Chicago, from the Atlantic; and on the Pacific side from Montana and Colorado. With a better adjustment of through connections between railroads and steamship lines the use of the Canal for interstate transportation will extend to wider connections, until it will be felt intimately in the business of every State in the Union. There is also the probability of development of

barge and steamer connections on the Lakes-to-Gulf waterway and the Ohio River, with connections at New Orleans.



Col. Jay J. Morrow

The use of the Canal will be felt only as it is a cheaper means of moving materials; and as such will affect the manufacturing costs of the country. An influence of this sort is intangible in its details, but in mass may be compared with the development of transportation in such revolutionizing forms as the railroad and the motor truck.

It is a boast of the west coast that "this is the century of the Pacific." Without relegating the Atlantic to an inferior position, one may admit the obvious growth of countries bordering on the Pacific.

For the trade of the west coast of South America with Europe and the Atlantic seaboard of the United States, which is the bulk of the foreign trade of that section, the Canal is practically the sole passageway. For the grain, lumber, salmon and fruits of the west coast of North America the Canal affords easy transit to Europe as well as to the Atlantic coast of the United States and Canada. The traffic with China, Japan and the rest of the Far East area, principally from the Atlantic coast of the United States, exceeds in bulk that over any other of the trade routes except the United States coastwise trade. These are natural and established trade routes; and they indicate a growing business of exchange in which the United States occupies a central position of advantage.

In both domestic and foreign transportation the Panama Canal is a vital thing in the business life of the United



U. S. Laundry for
Employees and
Shipping

States. Details might be extended *ad infinitum*. The simple fact of vast bulks of goods moving this way and that is the daily evidence which to us at the Canal is more striking than reams of discussion.

Whatever the future may hold in store as to the importance of air craft and sea power in the defense of the United States, at the present stage of military development, the security of the country rests first on sea power. In sea fighting as on land, the employment of effective force means primarily the quick concentration of masses—in General Forrest's homely phrase, "to git thar fust with the mostest men."

In the naval strategy of the United States the Canal then is invaluable. It permits the concentration of virtually all the power of the navy on either coast or at any point between—the Canal Zone is itself an important supply and repair base—and its rapid movement over any part of the coastline of the United States. When the

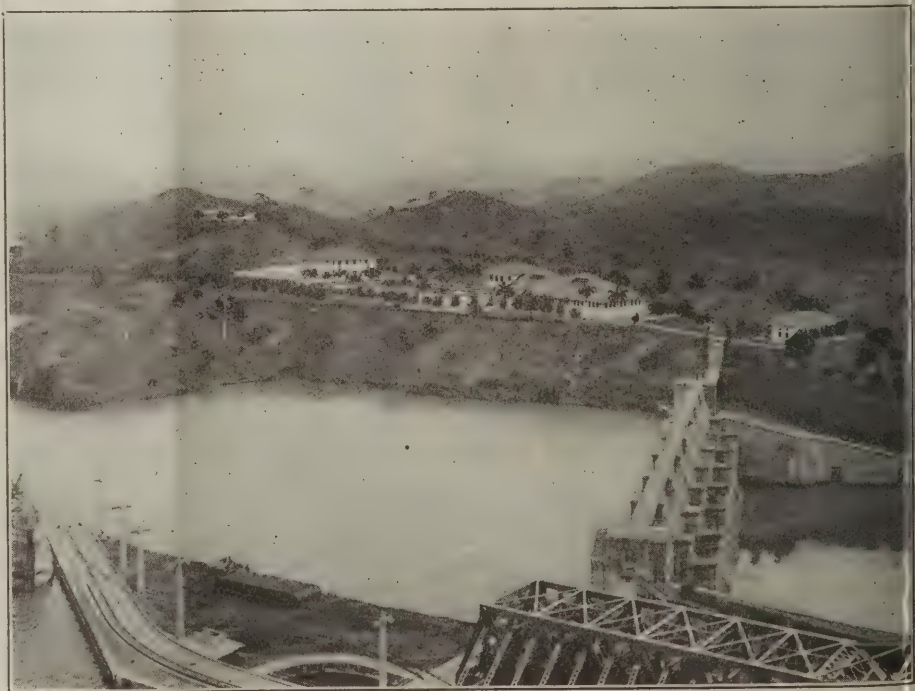


Cargo elevators at
Atlantic terminus

distance between Hampton Roads and San Francisco, by way of the Strait of Magellan, was 13,000 miles, such movements were almost out of the question as the Oregon's famous race will recall. Our coasts were more remote, one from the other, by 5,000 miles, than the coast of Brazil from the coast of India. Two fleets were vital, or their concentration left one coast defenseless. Now we have cut down the distance between center points of the two coasts to 5,000 miles, and a fleet stationed at the Panama Canal could move to the center of either coast before it could be reached from across the ocean.

The armament policy of the United States is predicated upon the necessities of defense. With the use of the Canal our ability in defense is increased at least one-half and in proportion we can reduce our actual expenditures for armament and still retain the adequate means of making the force of the country felt. The cost of the Canal, at roughly \$400,000,000, is the cost of ten modern battleships, doomed to obsolescence in twenty years.

The building of the Canal means lasting economies in naval expenditures, assuming those expendi-



Water Purification plant for Panama City and Pacific end of Canal Zone

tures graduated to genuine needs.

There is another feature about the Panama Canal and the Canal Zone which, while largely intangible, is of great importance. The Canal establishes an American outpost in the heart of Latin America and at one of the focal points of the world's movement of people and goods.

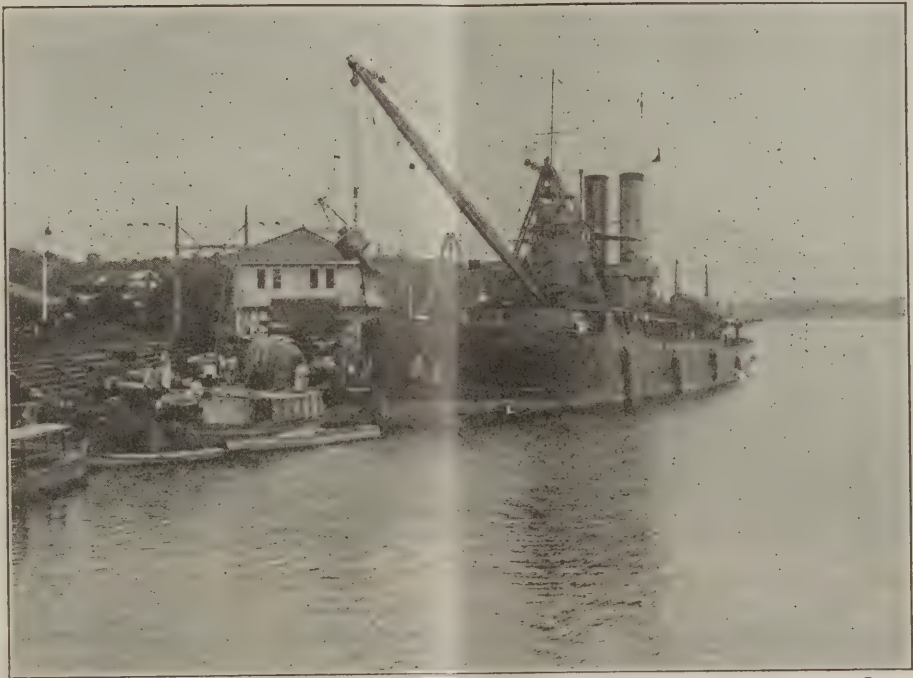
When John Patterson, founder of the Bank of England, declared that the nation which controlled the transit at Panama would hold the keys to the Western world, he probably spoke with the enthusiasm of the promoter and the trade conceptions of a buccaneer. His idea was not that the passage

should "be open on terms of entire equality," as the present treaty provides, but the contrary. In our times we are meticulously observ-

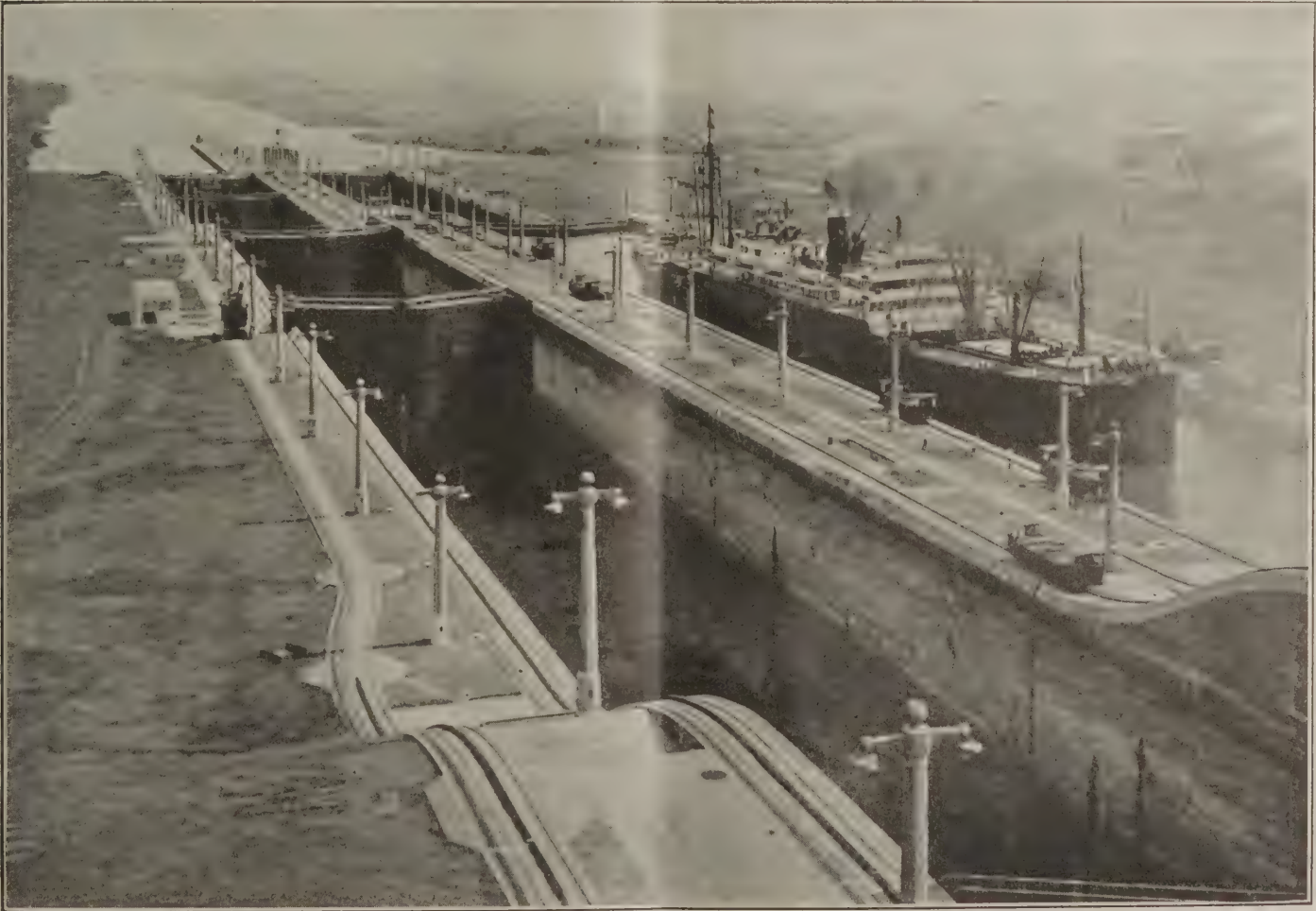
ing the principle of equal opportunity in the use of the Canal. And granting that the "keys" to situations are often suggestive of Premier Giolitti's comment that "perhaps the keys to the Mediterranean were in the Red Sea, but Italy never found them there," we find practical evidence, aside from generalizations, that the Panama Canal is indeed a key position.

My comment on traffic showing that the greater part of the traffic through the Canal is moving from or

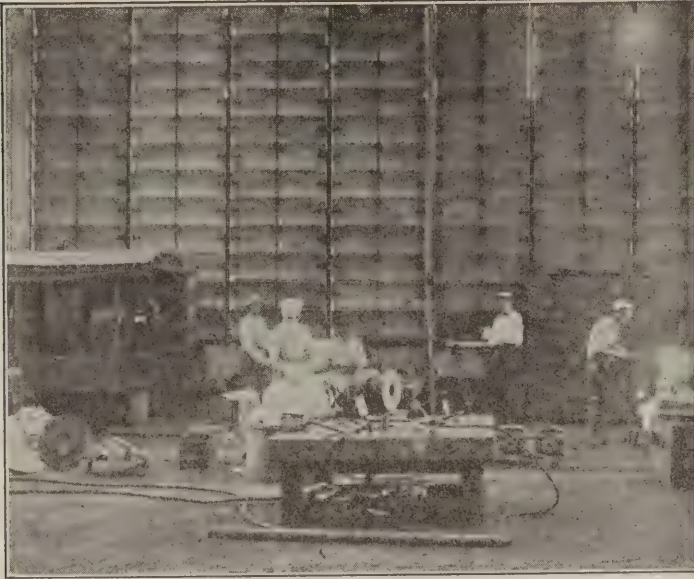
to the United States, and that the Canal is a help in our domestic and foreign trade, was based on the data of cargo shipments. In the



Salvage ship "Favorite" goes to distressed vessels within 500 mile radius



Going through the Middle East Chamber, Gatun Locks



Balboa welding and cutting shops



Chilean battleship in drydock for painting

broader field of influence — which in practical business works down to advertising and salesmanship—the Panama Canal is a key position for the United States.

All who pass through the Canal or call at its terminals gets a first-hand impression of American manufactured goods, of American equipment and methods, of American standards of living and of business. It is

a thorough exhibit; and I am pleased to say that it has been an excellent exhibit. Our Canal Zone is a little sample of transplanted United States, as well as the site of great construction; and as such I believe it is having considerable influence in diverting the people in the countries of the west coast, or northern South America, and of Central America to looking toward the United States rather than Europe for leadership in progress.

In a practical way the requirements of our quarantine service have brought home to the neighboring countries the advantages of having ports sufficiently sanitary to allow ships coming from them to escape detention at the Canal. And these practices of sanitation, having been found greatly to increase comfort and security, are penetrating into the hinterland. Our quarantine service has been able to handle this situation without friction, but with a



Hotel Washington at Colon, operated by the United States

positive development of good will, and I look on it as a shining example of how effectively Americans and Latin-Americans can coöperate when intelli-

and mining companies have to an extent recruited from the Canal forces, for supervisory officers and for skilled and unskilled labor.

gence and fair dealing guide their conduct.

Americans who came here originally to work on the Canal Zone have been the leading forces of the contracting companies which are building the highways of Panama, a \$2,000,000 program. Others have charge of port and municipal improvements in Colombia, Venezuela, Peru, Ecuador and Chile. Oil

Farmers and Business

RECOGNIZING what they termed "deplorable conditions" faced by American agriculture, fifty Chicago business men, including representatives of the railroads, meat packing and manufacturing industries, passed a resolution a week ago pledging themselves to coöperate and enlist coöperation to aid the farmers.

The resolution was offered by T. E. Wilson of Wilson & Co., packers, following addresses by President James R. Howard of the American Farm Bureau Federation; Alexander Legge, President of the International Harvester Company, and Julius

Barnes, President of the United States Chamber of Commerce.

President Howard was responsible for the meeting. He announced it was called to gain the assistance of big business in remedying the farm situation, which he said threatens to reduce American farmers to a condition of serfdom, comparable only to that existing in Russia.

The business men voted to authorize the appointment of a committee of five "to present the facts in this situation" to the commercial clubs, the national trade organizations, railway

(Continued on page 27.)

Strike Injunction's Legal Basis

Being a remarkably clear presentation of the real significance and the legal background of the decision obtained by the Attorney-General when the railroad strike became a menace to the country

Written especially for AMERICAN INDUSTRIES

By PAUL BAKEWELL
Member of the St. Louis Bar

I WONDER if some of those who have presumed to attack and criticize the Attorney-General of the United States and the United States District Court for the Northern District of Illinois, Eastern Division, for the action of the Attorney-General of the United States in bringing the bill in equity in the name of the United States, for and on behalf of the People of the United States, against the Railway Employees' Department of the American Federation of Labor, Bert M. Jewell, President, *et al*, and the action of the Court granting the temporary injunction in that case, have carefully read and studied that bill of complaint, so as to know the allegations which it contains, the theory upon which it is based and the relief sought. I also wonder if such critics have carefully studied the decisions of the Supreme Court of the United States and of other Federal Courts, which are pertinent to the issues presented and questions arising out of that suit.

As a matter of fact, the bill in that suit and the relief sought in that suit are very similar to the bill filed and the relief obtained in the same Court in July, 1894, in the case of United States in its suit against the American Railway Union, Debs, *et al*, known as "The Debs Case." The action of the District Court in that case granting the injunction sought by the bill and afterwards in punishing Debs for contempt of court by reason of his disobedience of the injunction order met with the unanimous approval of the Supreme Court of the United States, as shown by its decision of May 27, 1895, which is reported in 158 U. S. Reports, between pages 564 and 600.

The bill in that case, like the bill in the present case against the Railway Employees' Department of the American Federation of Labor, Jewell, *et al*, charged an unlawful combination and conspiracy to obstruct and interfere with interstate commerce and the transportation of the mails. The allegations of the bill in the Debs case are very similar to the allegations of the bill in this case against the Railway

Mr. Bakewell is one of the recognized leaders of the St. Louis Bar and has appeared in the Supreme Court of the United States in many of the important Western cases.

Employees' Department of the American Federation of Labor, Jewell, *et al*, as any one can see who takes the pains to read and study the bill in equity in these two cases. As pointed out in the statement of the Debs case, at page 570 of 158 U. S.:

"The bill alleged that the defendants threatened and declared that they would continue to restrain, obstruct, and interfere with interstate commerce, as above set forth, and that they 'will if necessary to carry out the said unlawful combination and conspiracy above set forth tie up and paralyze the operations of every railway in the United States, and the business and industries dependent thereon.' Following these allegations was a prayer for an injunction. The bill was verified."

On the other hand, as set forth in the bill in this suit against the Railway Employees' Department of the American Federation of Labor, *et al*, it is charged that, on or about June 29, 1922 the various defendants in the case, a list of whom, together with their official positions in the various Railway Unions, covers nearly three pages of the *Congressional Record*, conspiring and confederating together, promulgated a strike order to all the members of the federated shop crafts, and each of them, through their respective organizations, directing and requiring them to quit in a body and abandon the service and employment of the railway companies on July 1, 1922, at 10:00 o'clock A. M., and thereafter to absent themselves from such service and employment until such time as the railway companies (as these defendants had already done) should also repudiate, ignore, violate and disobey and refuse to accept or comply with or be bound by the decision of the United States

Railroad Labor Board, and until the railroads would consent to pay the members of the federated shop crafts wages in excess of those prescribed by the decision of the Railroad Labor Board.

The bill then charges that, in pursuance of that conspiracy, the defendants caused a strike order to be issued to the members of the federated shop crafts, below the rank of general foremen, to suspend work at 10:00 A. M., on July 1st on all railroads and in all Pullman shops in the United States. The bill proceeds to show that, in pursuance of that strike order, a large majority of the 400,000 members of the federated shop crafts employed by the railroads operating throughout the Continent of the United States did, on July 1, 1922, at 10:00 o'clock A. M., lay down their tools and walk out of the shops and quit and abandon the service and employment of the respective railway companies, and that, in pursuance of said conspiracy, combination and confederation and agreement and the said strike order, and according to public statements of defendant Jewell, approximately 90 per cent of the members of the federated shop crafts thus quit and abandoned the service and employment of the railway companies, and thus purposely impaired the safety and efficiency of the entire railroad transportation system in the United States, with the result that the railway companies, in many instances, were compelled to abandon the operation of passenger and freight trains, with consequent inability and incapacity to carry the mails and to transport in interstate and foreign commerce food, fuel and supplies for the immediate needs of the public, especially in the large cities.

The bill then recites numerous instances of damage and injury resulting from this general railroad strike throughout the United States, and charges that not merely the railroads, but the whole people of the United States have suffered, and are likely to suffer irreparable injury as a consequence of this strike. The bill shows also how persons seeking employment

to fill the places of the strikers have been intimidated and how the defendant Jewell and numerous other defendants have issued circulars, instructions and directions and caused circulars, instructions and directions to be issued in writing, by telegraph, by telephone and by word of mouth, so as to prevent the unemployed from taking employment with the railroads. In other words, the bill sets forth a most comprehensive scheme extending all over the United States to paralyze interstate commerce, interstate traffic and the transportation of the mails, to the great and irreparable injury of the people of the United States.

The bill also gives the history of the Transportation Act of 1920 creating the Railroad Labor Board, and sets forth how the dispute between the railroads and their employes was, after a full hearing, decided by the Railroad Labor Board in pursuance of the Act of Congress establishing the Railroad Labor Board, and how that decision of the Railroad Labor Board was rendered on June 5, 1922, to be effective on July 1, 1922, and how the strike above referred to was organized and carried out by the defendants because of and in violation of the decision of the Labor Board.

Much of the criticism of the action of the Attorney-General in bringing this present suit and of the Court in granting the relief prayed for in the present suit is based upon certain prayers of the bill which, the critics erroneously contend, infringe the constitutional right of freedom of speech. I shall here set forth those particular prayers of the bill which I take from the copy of the bill found in the *Congressional Record* of September 1, 1922, at page 13140:

* * *

"(i) In any manner by letters, printed or other circulars, telegrams, telephone, word of mouth, oral persuasion, or suggestion, or through interviews to be published in newspapers or otherwise in any manner whatsoever encourage, direct, or command any person, whether a member of any or either of said labor organizations or associations defendants herein, or otherwise, to abandon the employment of said railway companies, or any of them, or to refrain from entering the service of said railway companies, or either of them.

"2. The said defendants—Jewell, McGrath, Scott, Johnston, Noonan, Kline, Ryan, Franklin, and Hynes, and each of them, as officers as aforesaid and as individuals—be restrained and enjoined from—

"(a) Issuing any instructions, requests, public statements, or sugges-

tions in any way to any defendant herein or to any official or members of any said labor organizations constituting the said Federated Shop Crafts, or to any official or member of any system federation thereof with reference to their conduct or the acts they shall perform subsequent to the abandonment of the employment of said railway companies by the members of the said Federated Shop Crafts, or for the purpose of or to induce any such officials or members or any other persons whomsoever to do or say anything for the purpose or intended or calculated to cause any employe of said railway companies, or any of them, to abandon the employment thereof, or to cause any persons to refrain from entering the employment thereof to perform duties in aid of the movement and transportation of passengers and property in interstate commerce and the carriage of the mails."

The above prayers of the bill which, I understand, are incorporated in the injunction order issued by the District Court are, after all, except as to being more specific, no broader than the terms of the injunction order in the Debs case which met with the unanimous approval of the Supreme Court of the United States, to say nothing of the fact that since the decision in the Debs case, which was rendered May 27, 1895, the "Adamson Law" has been passed and interpreted by the Supreme Court, and the Transportation Act of 1920 has been passed creating and establishing the Railroad Labor Board.

In the Debs case, as in this case against the Railway Employees' Department of the American Federation of Labor, *et al*, the defendants were enjoined from unlawful conspiracy and from interfering in any way with the railroads by hindering, obstructing or stopping of trains, and then, as pointed out at pages 571 and 572 of 158 U. S., the defendants in the Debs case were enjoined "from compelling or inducing or attempting to compel or induce, by threats, intimidation, persuasion, force, or violence, any of the employes of any of said railroads to refuse or fail to perform any of their duties as employes of any of said railroads in connection with the interstate business or commerce of such railroads or the carriage of the United States mail by such railroads, or the transportation of passengers or property between or among the States; and from compelling or inducing or attempting to compel or induce by threats, intimidation, force, or violence any of the employes of any said railroads who are employed by such railroads, and engaged in its service

in the conduct of interstate business or in the operation of any of its trains carrying the mail of the United States, or doing interstate business, or the transportation of passengers and freight between or among the States, to leave the service of such railroads; and from preventing any person whatever, by threats, intimidation, force, or violence from entering the service of any of said railroads and doing the work thereof, in the carrying of the mails of the United States, or the transportation of passengers and freight between or among the States; and from doing any act whatever in furtherance of any conspiracy or combination to restrain either of said railroad companies or receivers in the free and unhindered control and handling of interstate commerce over the lines of said railroads, and of transportation of persons and freight between and among the States; and from ordering, directing, aiding, assisting, or abetting, in any manner whatever, any person or persons to commit any or either of the acts aforesaid."

The words emphasized in the above quotation from the injunction in the Debs case have been emphasized by me for the purpose of showing that, in general terms, the injunction order in the Debs case was quite broad enough to include within its scope the very parts of the injunction order in the present strike case which have received, in my opinion, most unjust criticism. Moreover, it should be noted that since the decision in the Debs case, at the instigation of the Labor Unions of the United States, the so-called "Adamson Law" was enacted in 1916, and in sustaining that "Adamson Law," against the contention of the railroads that the "Adamson Law" was unconstitutional, the Supreme Court, in the case of *Wilson v. New, et al*, reported in 243 U. S., 332, laid down certain principles to show that, while that law granted railroad employes certain privileges, it also imposed upon them certain duties. In speaking of these duties of the employe, the then Chief Justice says:

"As to the employe. Here again it is obvious that what we have previously said is applicable and decisive, since whatever would be the right of an employe engaged in a private business to demand such wages as he desires, to leave the employment if he does not get them and by concert of action to agree with others to leave upon the same condition, such rights are necessarily subject to limitation when employment is accepted in a business charged with a public interest and as

(Continued on page 12.)

Philippines And The Coastwise Law

Natives of our Far East possessions believe the measure will discriminate against them, divert trade from America to Europe and finally react to the prejudice of American Merchant Marine

Written especially for AMERICAN INDUSTRIES

By VICENTE VILLAMIN

Secretary, Philippine-American Chamber of Commerce

THE Merchant Marine Law of America, in section 21, provides for the extension of the United States coastwise shipping law to the Philippines. This means that only ships flying the American flag can carry passengers and cargo between the United States and that country.

At present there is substantial foreign tonnage engaged in the trade. This fact has served to promote efficiency in service and insured satisfactory freight rates.

American bottoms top the list in the volume of cargo carried. Considering the relative amount of tonnage engaged in the service American ships are certainly showing most encouraging results. Their patronage is bound to grow as they improve their service.

There is a desire all around among Filipinos and Americans to do their bit in the establishment of a powerful merchant marine that shall be a peer to the strongest that now dominates the seas. Both by the broad considerations of national defense and the development of foreign commerce, the United States must take her rightful position in the ocean routes of the world with her own merchant ships. The question of subsidy, consisting of direct and indirect aids, is before Congress, and is receiving the most thoughtful attention.

The extension of the coastwise law to the Philippines is one of the indirect aids urged to help the American merchant marine.

There is a sharp divergence of opinion on the wisdom of this move. The writer takes the position that it will prove so destructive to the trade between the two countries that it will finally redound to the prejudice of the merchant marine itself.

The Philippines is situated on the other side of the earth. It is more than four thousand miles away from the mainland of America. The biggest ocean in the world separates them. Geographically it is the height of absurdity to consider that far-away country as part of the coast of the United States. There are many important points of difference between

inter-coastal and ocean shipping. And local conditions and usages widely vary. It is best for the sake of all concerned, to leave the Philippines out of the coastwise scheme.

The elimination of legitimate competition, for that is what the proposition amounts to, infallibly and at all times makes for higher charges and not necessarily better service. Add to this the fact that American ships are operated at higher cost than foreign flag ships and there is no telling how high the rates will be made to soar. What will be the logical conclusion?

The cost of American manufactured products in the Philippines will be so high that necessarily there will be appreciable diminution in the demand. But this is not the most serious effect. The diversion of trade from America to Europe must come as a matter of course.

Even with a tariff handicap European goods are entering the Philippines in ever-increasing volume and variety. One important thing which is often overlooked is the fact that European firms in Manila are agents of the various European steamship lines and they operate in close unison. This cannot be said in the case of American concerns. High freight rates will wipe off the tariff advantage that American goods enjoy over the European. Europe is seeking an outlet for its manufactures and the Philippines will thus present an open field where eventually American goods can be displaced.

The effect on the exports of the Philippines will be as disastrous. Our tariff-protected exports will be competed against seriously in the American markets by those coming from neighboring countries. The logical consequence will be the impairment of the buying capacity of the Philippines.

As an instance, take copra, an important item in the exports of the country. This commodity enjoys no tariff protection. Increase the freight rate on this and Java alone can prevent a single ton of Philippine copra from being sold in this country. Besides killing this business in the Philip-

pines the consumers of copra in the United States will be obliged to draw from foreign sources only, which after thus disposing of Philippine competition, will be in a stronger position to dictate prices.

It is dodging discussion on the merits of this over-shadowing question by pointing to foreign elements as the source of opposition. The opposition arises from such facts as follows: Hawaii is under the operation of the coastwise law while the Philippines is not. The freight rate from San Francisco to Honolulu is \$7 a ton, whereas the rate to Manila, more than three thousand miles farther beyond Honolulu, is only \$5 a ton. In the former the law has eliminated competition for American ships. The case of Porto Rico which, being a territory, is under the scope of the coastwise law, presents similar anomaly.

The American shipping companies by their announcement of consolidations—those which are engaged in the Philippine trade—have annihilated the hope that in the event of extending the law to the Philippines there may yet be some competition between American companies themselves, although such competition may easily be reduced by them to the vanishing point.

The Shipping Board by simply allocating a fraction of the idle bottoms it owns can make out a case of adequate tonnage to handle the requirements of the trade. Without considering the fact that this idle fleet is not well balanced to meet the peculiar desideratum of the service it is impossible to get away from the elemental and basic principle that the destruction of legitimate competition leads to mischievous consequences. It is on this principle, not on the question of adequacy of tonnage, that we want to challenge the friends of the law to demonstrate that their proposition will not bring disaster to the economic interests of both the United States and her Far Eastern possessions.

The Philippine-American Chamber of Commerce is opposed to the extension of the law to the Philippines, but

formally assured President Harding that it would do all that it could to secure more coöperation for ships flying the American flag. In its work to this end it was revealed that there was and is a sincere general desire to use American ships in preference to others when rates are competitive and when good service can reasonably be secured. It is felt that if American ships give these two things they will get the business that they deserve.

Charles J. Welch, president of this Chamber, in a communication to the American Ship Owners' Association, and printed in a Congressional document, said among other things, "Some port will ultimately be the main distributing point of the Orient. We are very anxious that Manila should be that place and not Shanghai or Hong Kong. The extension of the coastwise shipping laws to the Philippines would unquestionably kill any chance of developing Manila's trade in this way, and a British port, not one under the American flag, will then become the Orient's main distributing point."

There is much food for thought in the following words of President Welch culled from the same document: "We have pledged our word to the President of the United States to do everything in our power to see that the American vessels engaged in the Philippine trade get their full share of the business, but our efforts will be unavailing unless American ship owners coöperate to the extent of equalling the service of foreign lines."

There is no hostility against American shipping. On the contrary, there is a desire to help. We are against the extension of the coastwise law to the Philippines believing that the most efficacious aid we can give to American shipping is to develop the trade between the two countries, the possibilities of which are tremendous.

The Philippines is on the road to prosperity. Already the balance of trade is in her favor. The note of contentment is perceptible everywhere. Governor General Leonard Wood and his associates, both Americans and Filipinos, tackled successfully the work of readjustment and reconstruction. The Philippine National Bank, the most important financial institution in the country, at great cost, has succeeded in making possible the establishment of modern sugar centrals; in bringing forth into existence the coconut oil industry; in helping numerous other industries; in popularizing the import and export business which was in the hands of a few, mostly foreigners; in helping a local bank and thus staving off imminent panic; and in bringing to the public greater knowledge of world

affairs—all of which will redound to the permanent material welfare of the Philippines.

With all hands coöperating the Philippines can be made the purveyor of America's wants in tropical products on the one hand and America's biggest consumer of her manufactures on the other.

LEGAL BACKGROUND OF THE STRIKE INJUNCTIONS

(Continued from page 10.)

to which the power to regulate commerce possessed by Congress applied and the resulting right to fix in case of disagreement and dispute a standard of wages as we have seen necessarily obtained."

And, in a separate concurring opinion, Mr. Justice McKenna says:

"When one enters into interstate commerce one enters into a service in which the public has an interest and subjects one's self to its behests. And this is no limitation of liberty; it is the consequence of liberty exercised, the obligation of his undertaking, and constrains no more than any contract constrains. The obligation of a contract is the law under which it is made and submission to regulation is the condition which attaches to one who enters into or accepts employment in a business in which the public has an interest."

It should also be noted that after that decision of the Supreme Court, which was rendered on March 19, 1917, the Railroad Labor Board was created by the Act of Congress of February 28, 1920, for the very purpose of establishing a tribunal to determine disputes between carriers engaged in interstate commerce and the carriers' employes and to render decisions in regard to any such controversies, for the very purpose of preventing a strike of railroad employes of railroads engaged in interstate commerce. It should be further noted that, in interpreting that Act of Congress of February 28, 1920, creating and establishing the Railroad Labor Board, in respect to another case arising out of this very shopmen's strike, as late as July 26, 1922, in the case of *Pere Marquette Ry. Co. v. International Assn. of Machinists*, Hon. Arthur C. Denison, U. S. Circuit Judge for the Sixth Circuit sitting in the United States District Court for the Western District of Michigan, held as follows:

"Further, it must be understood as a thing, in my judgment too plain for doubt, that the whole strike was conceived and is conducted in opposition to the general plan and purpose of the law even if not against

its express terms. Congress has power to fix railroad rates, as has long been settled, and has power to fix railroad wages, as was decided in the Adamson case. It may fix rates or wages, either by direct statute, like the Adamson law, or by acting through a commission or board. The direct statute, the order of the Interstate Commerce Commission fixing rates and the order of the Railroad Labor Board fixing wages (the second and third each within its statutory authority) are equally a law of the United States. It is true that no penalties are provided for violating the order of the Board, but it is none the less a valid law, which it is the duty of all to observe while it is in force."

In view of all this and as the law has developed very much since the decision of the Supreme Court in the Debs case in 1895, it would seem very clear that those provisions of the prayer of the bill in this present case against the Railway Employees' Department of the American Federation of Labor, *et al*, which provisions, I understand, were embodied in the temporary injunction granted by the United States District Court at Chicago, are well within the law and within the power of the Court, in the exercise of its judicial discretion. As the conspiracy to do the acts complained of in that bill of complaint is unlawful; as the matter of the dispute between the railroads and their employees was decided by the Railroad Labor Board on June 5, 1922, to be effective July 1, 1922; as this general strike was afterwards ordered and precipitated because of and in violation of the decision of the Labor Board; as it has been judicially determined in the decision of Judge Denison above referred to and as was very clear independently of that decision that the decision of the Labor Board is a law which it is the duty of all to observe as long as that decision is in force—it necessarily and legally follows that it is unlawful for the defendants in this present case against the Railway Employees' Department of the American Federation of Labor, Bert M. Jewell, *et al*, by word of mouth, by letter, by telephone or in any manner, to encourage, direct, etc., any one to abandon the employment of the railways or in any way to prevent any one from taking employment in a railroad, thus to encourage, foster and aid a conspiracy to injure, impair or destroy the transportation of goods, merchandise or persons in interstate traffic and travel, or to interfere with the transportation of the mails. It is hardly short of absurd to speak of such clauses in the

(Continued on page 16.)

Romances Of Industry—Anthracite

From the time coal was discovered in this country in 1679 it had a somewhat discredited and difficult career for two hundred years before its utility was appreciated and development begun

Written especially for AMERICAN INDUSTRIES

By E. W. PARKER

Director, Anthracite Bureau of Information

AWAY back in 1016 B. C., King Solomon remarked: "As coals are to burning coals and wood to fire, so is a contentious man to kindle strife."

Whereupon the king's efficient secretary indexed these words of wisdom "Proverbs 26:21" and so they have come down to us as the earliest mention of coal.

There is nothing to indicate that in speaking of contentious men and strife, Solomon was referring to future labor disturbances in the coal industry. Indeed, it is highly probable that he had nothing of the kind in mind, because all of the available data leads to the belief that the labor situation was pretty well under control in those early days and that the methods used in settling difficulties between employer and employee, while crude in the light of present-day opinion, were nevertheless highly effective.

It is thought by some that Solomon was speaking of charcoal, but as his kingdom contained Syria, which abounds in coal, fossils and bituminous pits, there is reason to believe that he referred to the genuine article, possibly not so well prepared as the present-day fuel, but still coal.

Reading on through the Bible we find, in Isaiah, 47:14, the passage: "There shall not be coal to warm at." This undoubtedly was part of a statement issued by some fuel administrator during a coal shortage back in 750 B. C., which goes to prove that the

ancients were beginning to have their troubles.

However, it is evident that coal was not then an active article of commerce because the next mention of it does not occur until about 100 years later, when, in Lamentations, 4:8, the prophet says of the nobles of Jerusalem: "Their visage is blacker than a coal." It will be noted, however, that even in these early days, coal was used in making odious comparisons.

tools of the type used by the Romans and cinders, which were found near the old Roman wall.

But the first actual record of the use of coal in the British Isles is a receipt for "twelve cauldrons of coal," given by the Abbey of Petersboro in 852 A. D.

From that time on, it may be assumed that the development of the industry in Europe proceeded in accordance with the requirements of the times

and so, by gradual stages, we arrive at the discovery of coal in this country, by Father Hennepin, the Jesuit missionary. This was in 1679 and the coal was Illinois bituminous. The outcrop was discovered near what is now Ottawa, Ill., an important coal center.

Anthracite, however, was not discovered here until 1760, when the Rhode Island deposits were uncovered. This coal is very hard, with occasional beds of plumbago and pure graphite. At various times attempts have been made to operate the Rhode Island

mines in competition with Pennsylvania's collieries, but the efforts have not been commercially successful. The mines are not now in operation. The Rhode Island product has passed beyond the stage of anthracite and is in fact graphite.

Pennsylvania anthracite was first found in the Wyoming Valley in 1766, by James Tilghman, of Philadelphia. In 1770 coal was found near the towns of Mahanoy and Shamokin. Some of this early coal was shipped to



The modern anthracite breaker is a great manufacturing plant costing up to \$1,500,000 to build

The earliest attempt at a description of the formation of coal is credited to Theophrastus, the Greek orator and philosopher. Writing about 300 B. C., he refers to "those substances that are called coals and are broken for use, are earthy, but they kindle and burn like wooden coals." He further describes them as occurring in "Lyguria and in Elis, over in the mountains toward Olympias."

That coal was used in England before the Christian era is indicated by

Carlisle, Pa., in 1776, for the use of the Continental Army.

Later, in 1790, anthracite was discovered near Mauch Chunk and this was the beginning of the development of the great Lehigh region.

Anthracite did not meet with an enthusiastic reception from the early prospective consumers. It is a matter of record that William Morris took a wagonload from Tamaqua to Philadelphia in 1800, a distance of nearly 100 miles over terrible roads, but was unable to find a buyer. Attempts to burn the coal failed and it was condemned as unfit for use.

Another effort at wagon transportation was made in 1812 by Colonel George Shoemaker who succeeded in bringing nine loads from Pottsville to Philadelphia.

The Colonel also had hard luck with his market. The people were unused to anthracite. They called it "black stones." The Colonel sold only two wagon loads and gave away the other seven. It is mentioned that he had some difficulty in getting out of the city ahead of the police who were stirred to activity by indignant purchasers who thought they had been imposed on.

Later, however, Colonel Shoemaker's representations were found to be justified and he was vindicated. It is recorded that after two blacksmiths had spent a whole morning in unsuccessful efforts to make the coal burn, they went to dinner and, on their return, found the coal burning brightly. They had proceeded on the theory that an anthracite fire should be continuously stirred, as was the custom with bituminous coal, when all it needed was to be let alone. That is all anthracite needs now.

So the anthracite industry began to develop. It was a terrific job to get the coal to market. There were no roads worthy of the name and there were times more frequent than otherwise when the mountain trails were impassable.

Coal had to be transported, however, so with native inventiveness, the early coal men evolved the "ark," a rough

boat built of heavy timbers. These arks were about 90 feet long, by 16 feet wide and 4 feet deep, pointed at both ends.

The full load of an ark was about 60 tons of run-of-mine coal and the motive power was supplied by the swift current of the rivers, aided by a 30-foot sweep which required two men to handle. The crew of an ark consisted of four men and, with luck, it took seven days to make the journey from the mines to tidewater.

The element of luck entered very largely into the venture, because about one-third of the arks came to grief on the bars and rocks of the rivers and were lost with their cargoes.

The arks cost about \$70 to build in

resources of the region and anthracite mining as it is conducted under conditions prevailing to-day, was not even dreamed of. The coal was picked out and blasted out in the easiest possible manner, shipped to market by the most convenient means and disposed of to the best advantage.

It was not until many years later, when the demand assumed proportions that necessitated greater production, and the increasing difficulty of mining gradually brought into being more and more efficient methods, that the industry began to assume its present state of development.

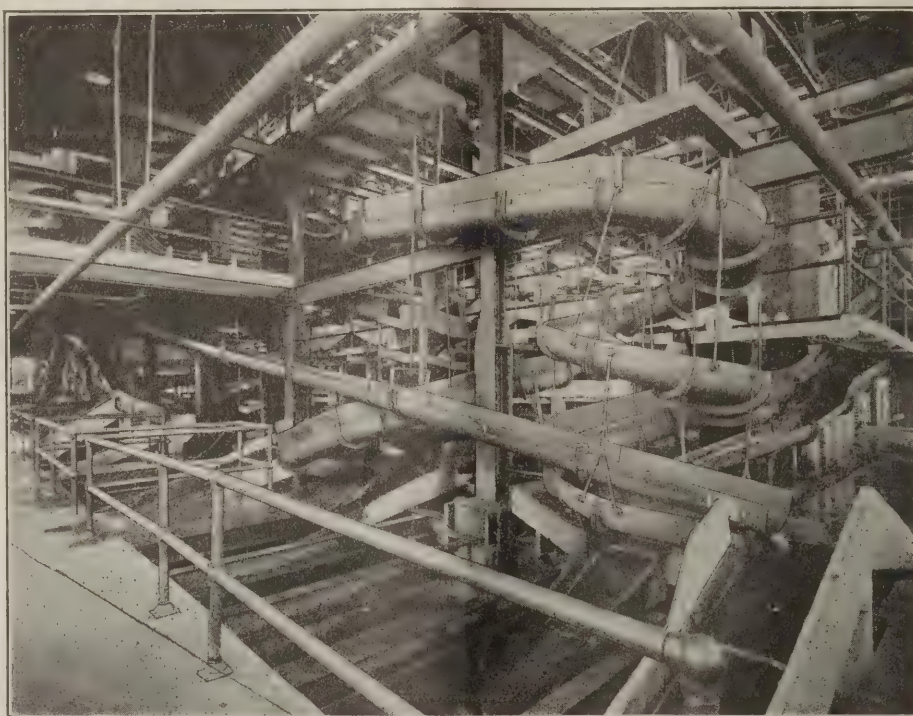
None of the men engaged in producing anthracite in the early days would have imagined, for instance, a commercial production of

more than 70,000,000 tons a year, prepared and sized for the market by being run through modern breakers—great manufacturing plants costing up to a million and a half dollars to build.

None of the pioneers would have dreamed of mines with miles of underground galleries in which half a billion feet of lumber—seven board feet to a ton of coal produced—is used every year to protect passages from falling and caving rock.

It is certain that none would have imagined mine shafts sunk from 500 to 1,500 feet into the earth, necessitating elaborate and costly hoisting apparatus to bring the coal to the surface and requiring the constant use, twenty-four hours a day, year in and year out, of pumping apparatus to prevent the mines from flooding. The item of water probably never entered the heads of the pioneers. And yet a pumping capacity of 823,600,000 gallons a day is needed to keep the anthracite mines free. This means that an average of eleven tons of water must be raised for every ton of domestic and steam size anthracite shipped to market.

However, these things, without which it would be impossible to supply the demand for anthracite, combined with constantly rising labor costs, have added tremendously to the cost of production. Yet the retail price of an-



Interior of Hudson Coal Company's Loree Breaker. The preparation of anthracite for market is an elaborate process

those early days of cheap labor and material, and the trip to the seaboard cost about \$50. As it was impossible to float the boats back against the current, those that made the trip were sold with the coal for whatever they would bring, generally about \$15. The coal which was wholly unprepared according to present standards, sold in Philadelphia and Baltimore for from \$10 to \$12 a ton.

Later canals were developed primarily for coal transportation and about 1825 short lines of railroad were built as feeders to the canals. These railroads, with wooden rails and little cars of 1½-ton capacity, with horses for motive power, were the forerunners of to-day's great system of anthracite transportation.

There is no record of quantity of anthracite produced in those early days. Practically nothing was known of the

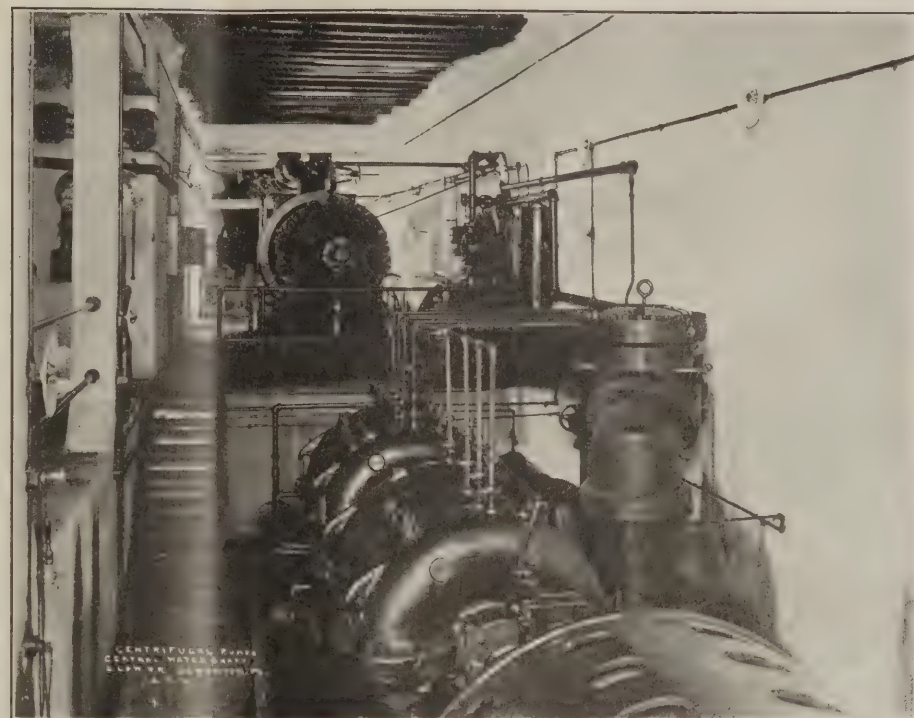
thracite is not greatly above the price charged back in the days of the arks, when anthracite was a thing for which a general demand had yet to be created. And this notwithstanding the fact that the industry has just gone through the worst strike in its history.

This strike, the causes of which were detailed in an article published in a previous issue of AMERICAN INDUSTRIES, has left the production of anthracite approximately 30,000,000 tons short. It will be impossible to make up this shortage during the present coal year.

As a result of the strike, the cost of producing anthracite has risen and yet the demand of the public is for lower prices.

The demand is by no means unjustified. The anthracite operators know that, economically, the price should be lower. But in an analysis of the cost of producing anthracite, S. D. Warriner, president of the Lehigh Coal & Navigation Company, and chairman of the General Policies Committee of Anthracite Operators, reached the conclusion that a reduction in the domestic coal bill cannot be accomplished without a reduction in the cost of production. He further finds that the margin between mine cost and realization must be such as will enable all of those properties to operate whose output is necessary to meet the demands of the public.

Basing his calculations on statistics showing the normal yield from a total of 100 tons of various sizes of anthra-



One of the Glen Alden Coal Company's Pumping Plants. A pumping capacity of 823,000,000 gallons a day is needed to keep anthracite mines from flooding

cite to which he applied the maximum company prices obtained in 1921 and 1922, Mr. Warriner states that the average realization by the producer is \$6.28 a gross ton, while the average margin between production cost and mine price is but 54 cents per ton.

But before any funds are available as profits or dividends, Mr. Warriner

says, there must be deducted from this margin "such summer and trade discounts as have been allowed and whatever contributions are made to the Federal Government in the way of taxes. Federal tax payments vary somewhat widely, according to the earnings of the companies and the total amount is not known. It is a safe guess, however, that the return on the investment in the last two years has ranged about 35 cents to 40 cents a ton."

"When it is considered," Mr. Warriner goes on, "that under present conditions, the average investment in an anthracite property is from \$8 to \$8.50 per ton of annual output, it is clearly apparent that the average return in the anthracite industry is not more than 5 per cent on the investment, which not only is not excessive, but, because of the hazardous character of the business, does not offer attractive features to capital seeking safe and profitable employment. Anthracite mining operations, in order to insure against the risks inherent in the industry, should yield not less than 10 per cent."

The labor cost of producing fresh-mined commercial anthracite Mr. Warriner places at about \$4.11 a ton. There should be added to this "in order to get the total cost of production, \$1.05 per gross ton for supplies and 58 cents per gross ton for overhead, making the total cost, exclusive of Federal taxes, \$5.74 per gross ton." The average cost of fresh-mined commercial coal for the anthracite region, he says, probably



Timbered gallery showing type of electric locomotive used in anthracite mines. Half a billion feet of lumber are used every year to protect passages

will not vary five cents a ton up or down from this figure.

Taking up the question of realization, Mr. Warriner goes on to say:

"The prices for the domestic sizes of anthracite since September 1, 1920, when the President's commission handed down its award, have ranged from \$7.75 to \$8.10 per gross on, f. o. b. mines. When these figures are compared with the total cost as shown above, it would seem that the gross margin on the mining operations is from \$2 to \$2.35 a ton. It must be remembered, however, that anthracite as it comes from the breaker is not all egg, stove and nut coal. Approximately 11 per cent of the total output consists of pea coal that sells at little if any above the production cost, and of from 25 to 30 per cent of so-called steam sizes that sell at less than the labor cost alone."

Taking the 100 tons of anthracite of various sizes on which he figures the average realization of \$6.28 a gross ton, as a basis, and allocating the cost to the different sizes in proportion to the percentages produced and the price realized on them, Mr. Warriner continues:

"We then have as the mine cost of, say, a gross ton of stove coal, \$7.40, of which \$5.30 is for labor. Remember this is the allocated actual cost—and that against the \$5.30 allocated labor cost for stove coal must be set that of \$2.29 for buckwheat, \$1.64 for rice and 98 cents for barley.

"Such a method of arriving at the cost is necessary, however, if anything like an understanding is to be had of what enters into the price of the coal which the consumer pays to his dealer. With this before us, we can show approximately what are the factors entering into the consumer's price say, in New York City."

Mr. Warriner then cites figures to show the allocated cost of two sizes of anthracite at New York, developing the difference in the operator's margin on the domestic and steam sizes, and converting gross tons of 2,240 pounds, the legal unit for anthracite in Pennsylvania, to net tons of 2,000 pounds, the unit at which it is sold in New York.

In the case of stove coal, the total mine cost is placed at \$6.61 per net ton, made up of these items: Labor, \$4.73; Supplies, \$1.21; General expense, 67 cents. To this total is added the operator's margin of 62 cents, making the f. o. b. mine price \$7.23. Transportation to New York costs \$2.33 per net ton and lighterage is 45 cents, making the total cost to the dealer \$10.01. The dealer's cost of distribution, margin and profits added to

this make up the retail price of \$13.30 a net ton.

As a contrast, with rice coal, one of the steam sizes, Mr. Warriner figures the total mine cost at \$2.045 a net ton, to which is added the operator's margin of only \$0.187, making the f. o. b. mine cost \$2.23. Transportation charges on the anthracite steam sizes are \$2.20 a net ton, plus 31 cents lighterage making the total cost at tide-water \$4.74. The dealer's cost of distribution, margin and profits, figured at \$2.35, added to this make the retail price at New York City \$7.10 a net ton.

In the face of this analysis by a man eminently qualified to speak for the anthracite industry, there appear from time to time statements concerning

enormous hidden profits in the anthracite industry. These statements, vague as they are, have been repeated often enough to create an impression in the public mind that they contain an element of truth.

President Harding has recently appointed a commission, composed of men of international reputation, to conduct an inquiry and ascertain all of the facts concerning the coal industry, both anthracite and bituminous.

But unless this commission uncovers something about which those immediately and intimately concerned have never had any knowledge, it will be found that the facts, so far as they relate to costs and margins, are in accordance with Mr. Warriner's analysis.

LEGAL BACKGROUND OF THE STRIKE INJUNCTIONS

(Continued from page 12.)

bill or injunction order as interfering with freedom of speech or liberty of the press.

As said by the Supreme Court in the case of *Toledo Newspaper Co. v. United States*, 247 U. S., 419-420:

"The safeguarding and fructification of free and constitutional institutions is the very basis and mainstay on which the freedom of the press rests, and that freedom therefore does not and cannot be held to include the right virtually to destroy such institutions. It suffices to say that, however complete is the right of the press to state public things and discuss them, that right, as every other right enjoyed in human society, is subject to the restraints which separate right from wrong-doing."

Clearly, it is "wrong-doing," under the circumstances alleged in the bill of complaint in the case which we are discussing, for the defendants in that case, or any of them, by word of mouth, by letter or by any writing, to foster and encourage that railroad strike, which is in violation of and against the decision of the Railroad Labor Board. That tribunal was established by Congress for the very purpose of deciding disputes between the railroads and their employees, to the end and purpose that the people of the United States shall not be annoyed, disturbed or injured in the matter of interstate commerce and interstate transportation by a railroad strike. That that part of the prayer of the bill which I have referred to and quoted from herein, which, I understand, to be a part of the injunction order granted in that case, does not offend against the true principles of freedom of speech and liberty of the press will also be found

by any one who will take the pains to consult the decisions of the Supreme Court in the following cases, to say nothing of many other decisions of the Supreme Court that may be cited to the same effect:

Robertson v. Baldwin, 165 U. S., at page 281;

Gilbert v. Minnesota, 254 U. S., at page 332;

Schenck v. United States, 249 U. S., at page 52;

Hickson v. United States, 258 Federal Reporter, at pages 870 and 871;

Fraina v. United States, 255 Federal Reporter, at pages 35 and 36;

Frohwerk v. United States, 249 U. S., at pages 209 and 210.

I observe, in the *New York Times*, of September 19th, the letter of Mr. Samuel Untermyer, accepting Mr. Keller's request to press impeachment charges against the Attorney-General, Mr. Daugherty. In the course of that letter, Mr. Untermyer states:

"The other matters to which you refer" (the injunction order granted by Judge Wilkerson, etc.), "have not yet been sufficiently studied by me, except that, in common with almost every lawyer in this country, I stand simply aghast at the terms of the injunction order in the railroad case." * * *

It is to be hoped that Mr. Untermyer will sufficiently study the bill in equity in that case and the decisions of the Federal Courts applicable to the situation, only a few of which I have cited above.

As in the course of his letter to Mr. Keller, Mr. Untermyer states that he has "just returned from abroad," I hardly see how he is able to state that "almost every lawyer in this country" stands "simply aghast at the terms of the injunction order in the railroad

(Continued on page 23.)

Ending Hardwood Lumber Waste

Manufacturers' Institute seeking to correct practices, which permit a loss of 500,000,000 feet a year because lumber grades are not formulated for the proper economic utilization of the wood

Written especially for AMERICAN INDUSTRIES

By LANDON C. BELL

Chairman, Publicity Committee, Hardwood Manufacturers' Institute

IN reducing hardwood trees into the finished products made of hardwood lumber there is an almost unbelievable shrinkage in volume. The quantity of lumber which gets into the form of finished articles or commodities, such as furniture, chairs, interior trim, music cabinets, hardwood flooring and so forth, is such a small percentage of the gross volume of the hardwood trees cut as to be startling.

American Forestry in a recent editorial called attention to the almost unbelievable figures on the subject for which it quoted the Forest Service as authority, and pointed out that the shrinkage resulted from waste, much of which resulted from the "finicky" demands of customers, citing in support of its indictment that thirty per cent of certain lumber perfectly suitable for spools was wasted because it was off color. It was perfectly good, and perfectly sound, but it was not pure white. For spool stock we must have pure white until all white is gone—then probably we will be glad to have nice sound red-heart—but in the meantime millions of feet of the wood is wasted because it is off color. This magazine very serviceably points out the necessity of the development of a national conscience on such subjects.

William A. Durgin, Chief, Division of Simplified Practice, of the Department of Commerce, addressing an assemblage of lumbermen in July last, speaking of waste, said:

"It is in this most serious situation that the Department of Commerce hopes to be of vital assistance. Responding to Secretary Hoover's question, 'What can the Department do to help?' many business leaders have urged the great promise of material reduction of costs all along the line through waste elimination, and the elimination they have in view is quite a different thing from the "conservation" you lumbermen have heard very possibly ad nauseam. It happens that this subject of waste has long been a primary interest to Hoover. Some two years ago when he was president of the Federated American Engineering Societies, the organization undertook a careful survey of the wastes in six

major industries—boots and shoes, clothing, textiles, printing, metal trades and building construction. The results are published by the McGraw-Hill Book Co. in 'Waste in Industry,'



Landon C. Bell

and would well repay your detailed reading, but the outstanding fact for the moment is: this report shows that on the average, these six industries are being operated with a waste of 40 per cent—40 per cent of the capital, material labor, mental effort just thrown away with nothing to show for it! Of course, it's an engineer's report and some of you may want to discount the technical man's findings, but surely you'll admit these engineers are at least half right and that would mean a waste of 20 per cent—\$1 out of every \$5 destroyed. Assuming that something similar applies in your special field, this means an absolute waste of at least \$1,000,000,000 and very probably much more in lumber last year. At least a half billion dollars wasted already this year, even allowing for decreased production."

If the figures given are correct for the six industries treated, undoubtedly they are conservative for the hardwood branch of the lumber industry, for there the informed know the waste is unusually heavy.

Competent authorities estimate that there is in the hardwood industry a loss

and waste of at least 500,000,000 feet annually of hardwood lumber, because lumber grades are not so formulated as to make possible proper economic utilization of hardwood lumber; in other words grades are such that fabricating consumers cannot avoid enormous waste in the utilization of the lumber which they are compelled to accept under present grade specifications and merchandising methods.

There has been inadequate understanding of the proper function of grading and inspection rules. They may, and do have, several useful purposes to serve. It is remarkable the amount of loose thinking which is indulged in, in respect thereto.

Possibly the expression which is heard most often regarding rules, is that they are merely for the purpose of settling disputes. Another view often expressed is that rules simply help to determine the measure of value and that it is not important what the rules are, because the value can be adjusted to the rules regardless of what they are. This last is a confused mixture of truth and error, and wholly ignores the utility feature—wholly overlooks the questions of waste and conservation.

The primary object of grading rules should be to enable those who use lumber—the fabricating manufacturers and consumers—to specify what they want and get it. A secondary purpose of grading rules is to afford a measure of value. The question of settling disputes, so far from being a primary object, is really incidental and practically negligible, since it is only with respect to a very small fraction of lumber production that any disputes ever arise.

Rules for the grading of lumber should constitute engineering specifications defining the boards or commodity which are to be included in a given grade; and these should be based upon, and made to conform to, the uses to which the lumber is intended to be put in consumption. The purpose—certainly the primary purpose—of all specifications should be to describe what is necessary to fill a certain requirement. These specifications cannot be intelligently formulated without a

study of the utility requirements.

The inspection of lumber is the application of those rules in the first instance when lumber is shipped, in order to select from the product of the log those boards which are in conformity with the specifications. Inspection at destination constitutes an inspection anew or a checking of the first inspection to see whether the specifications have been properly applied.

Grading and inspection rules in the hardwood industry have been based upon no such considerations and have not had this purpose in view. They have not been primarily based on consumption requirements and production possibilities. The grades have not had in view the filling of specific consumption and fabricating requirements. For example, the chair manufacturer and the case goods manufacturer have in the main had to get the cuttings they required from the same grades of lumber; and these contain a varying assortment of boards, some of which are well adapted to the use of one manufacturer and some to the other, but all of which no manufacturer can use with economy and without excessive waste.

Even so simple a process as grade formulation, with specific reference to the character of use of the different manufacturers, based upon known and ascertained consumption requirements of the classes—a process which would be comparatively simple—has not been accomplished or even attempted in the past, and requested changes in this direction have been strenuously opposed in some quarters. If grades, constructed after study in cooperation with the consumers, based upon the practical requirements of the respective industries, were made standard, is there any doubt that they would be to the interest of those engaged in the different fields of consumption thus considered, and this process could be well accomplished, not only with respect to one consuming industry, but the consuming industry as a whole.

No one has the thought that a separate grade, fitting every need in every industry, in size and specification, will be attempted. This would so multiply grades in respect to number, and require such an amount of information as to the volume of consumption of the different items as to make any such plan unwieldy and impossible.

It must be thoroughly realized by everybody that all grade rules must be practical. Any impractical plan will be worthless. No plan that is not reasonably workable can be adopted. Manufacturers cannot be expected to produce something to exactly fit the multitudinous assortment of patterns that the six or eight thousand hardwood

consumers in the country use. This would fill their yards with such varieties and numbers of grades as to make any such plan impossible of adoption.

It should be clearly understood that whether from the standpoint of the manufacturer or the consumer, grade rules must not attempt the impossible; and anything that is not reasonably and practically possible, is not possible.

But an adequate survey, intelligently made, and a willingness to standardize consumption requirements, and a classification of similar needs in all industries, reduced to units and multiples, will enable the maximum number of consumption requirements to be met by the formulation of grade specifications, with the specific purpose of covering these requirements. This is but another way of saying that in the survey consumption requirements will be grouped and classified so that the maximum number will be served by the minimum number of grades. This is what is demanded by a sensible adaptation of production to consumption.

It is contemplated that the changes made in grade rules will be the result of complete agreement with the representatives of consumers.

An illustration here will be indulged. Take for instance, four boards, which under present specifications will grade No. 1 Common. One of the boards would work admirably for a table manufacturer or other fabricator requiring a good percentage of fairly long cuttings.

Another of these boards could not be used advantageously by the table manufacturer, as it would produce none of the long cuttings required, but this board could be used very advantageously by, say a chair manufacturer.

The third board only 3 inches wide could not be used to advantage by the table manufacturer, or manufacturers having such requirements, but it could, like the second board, be used to good advantage by the chair manufacturer.

The fourth board could not be used satisfactorily by a table manufacturer at all, but it could be used by a flooring manufacturer with less than 15 per cent waste.

Under present specifications, a manufacturer engaged in any of the above lines of manufacture, would have to take all four boards in the one grade and pay the same price for them. The present grade rules for lumber are archaic, crude and unscientific and make necessary and inevitable an enormous waste of lumber. We do not merely mean to say that under these rules a large amount of waste is possible; we mean to make it much stronger; we mean to say that under these rules a vast

amount of unnecessary waste is inevitable.

No particular consuming industry can use to advantage all of the boards that fall within present grade definition of any grade, and every industry experiences a great variation in the waste that obtains in working different boards which fall within the present grade.

The proper determining factor in grade making should be the net yield of a board in the sizes desired for fabrication by the consumer. If this factor is given its proper place, the definition can be so simply and plainly expressed as to make their interpretation and application extremely easy.

Higher grades are getting scarcer and more costly, that is the proportion of the higher grades to the total yield of the log is growing less. The lower grades are correspondingly getting to be greater in proportion, and these are now produced and merchandised in such a way as to make it impossible for much of the lower grades to move in the channels of commerce.

Of course, when we speak of low grades, this does not mean that the good lumber in the boards falling in those grades is of any less intrinsic value or worth than similar lumber of the boards in the higher grades. It merely means, or may mean, that the boards simply do not produce the same quantities of the same quality of lumber that are produced from the boards in the higher grades. And here is the important matter already alluded to: if grades are so formulated as to make the determining factor the net yield of the board of the lumber required, the way will be opened for the utilization of the good lumber that is available in the required dimensions, etc., produced from the boards in what is now called the lower grades, because the good lumber in these grades is just as good as any, but it is locked behind a kind of economic barrier at the present time under present specifications. There is no certainty whatever as to the yield for a particular fabricator from any given quantity of the commodity, and the net yield from any particular quantity of lumber in any grade under present grade specifications is a very uncertain quantity. This situation would be wholly corrected in all grades if the fundamental basis of the grade specifications were as pointed out—the net yield to the utility fabricating the lumber.

The benefits to be derived by the consumers and producers as well as the public at large (the latter as a result of conservation and lower prices of

(Continued on page 26.)

Great Ports Of The Nation—Seattle

Commerce of the Northwest city has jumped tremendously in ten years, caused the construction of piers half a mile long and is giving magnificent returns to the people for their investment

Written especially for AMERICAN INDUSTRIES

By HAROLD CRARY

Assistant Secretary, Seattle Chamber of Commerce

WHEN a city's population jumps from 80,000 to 343,000 in 20 years, recording a gain of 263,000, there are sound economic reasons back of it. In 1902 there were 80,000 people in Seattle, and the 1922 directory estimate of the metropolitan area is 343,000. Mere geographical advantage, coupled with wealth of natural resources, could not have brought about this gain if there had not been the progressive western spirit. So it is that Seattle, always with its eyes on its future as a world port, has inaugurated an experiment in port development the control of which may be destined to have a far-reaching and significant effect upon the future organization of seaports of this nation.

To understand why Seattle has invested millions of public money in docks and terminals one should realize the natural advantages which are Seattle's. Seattle is the metropolis, commercial, transportation and shipping center of the Pacific Northwest, which in 1921 produced 119,000,000 bushels of wheat; 48,000,000 bushels of oats; 9,838,000 bushels of corn; 11,377,000 bushels of barley; 2,542,000 bushels of rye; 8,800,000 tons of hay; 35,635,000 bushels of apples; 2,988,000 bushels of pears; 1,775,000 bushels of peaches.

The total value of agricultural, horticultural, dairy products, wool, poultry and live stock sales in the territory in which Seattle is the predominant city in 1921 amounted to \$550,000,000. To this must be added the tremendous revenue which comes from the minerals, timber and fisheries. The Pacific Northwest is produc-

ing in excess of a billion dollars worth of new wealth every year. Then add the commerce of Alaska



Harold Crary

amounting to more than \$100,000,000 annually.

Seattle is the supply point which can reach the 200,000 farmers in the Pacific Northwest. It enjoys terminal rail rates, made to meet the water rate on the intercoastal service. The farming

and mining sections ship to Puget Sound, where rail meets sail.

Seattle is the nearest American port to the 475,000,000 people in China, Japan and the Philippines, growing markets for United States trade.

In 1920 there were 52 more foreign sailings to the Far East through the straits of Juan de Fuca than from the Columbia River ports, San Francisco, Los Angeles, and San Diego combined. These lines, like the American, want the short route to the Orient. So do shippers. Seattle is 96 miles nearer to New York than any California port.

Four times as much Chinese and Japanese exports to the United States came through the Straits of Juan de Fuca in 1920 than through all other Pacific Coast gateways combined.

The fact that Seattle is the only major port in the United States in which no dredging has to be done for ship channels is an asset of prime importance. Outside of Seattle, the principal ports, San Francisco, New York, New Orleans, Gulf ports, Baltimore, Philadelphia, Boston have required in the past and will require in the future an expenditure of millions to provide ship channels.

The ample depth of water in Puget Sound, the minimum being 156 feet, makes it possible for ships, no matter how large, to come to this port and find a berthage without even the aid of a pilot or a tow.

But this unique advantage, unless coupled up with modern facilities, would have availed Seattle nothing, and as a pioneer it created in 1911, through legislative act, a corporation known as the Port Commission. The law conferred broad and comprehen-



Largest commercial dock in the world—more than half mile long, one city block wide, with five miles of railroad trackage

sive powers on this new form of municipality. To date this specialized form of municipal corporation owns terminal properties valued at approximately \$16,000,000.

These include piers and cargo sheds, concrete warehouses for general storage, cold storage plants, a million bushel grain elevator located on tidewater, a terminal icing plant, large reservoirs and bulking equipment for Oriental oils, marine ways, mooring basins and special accommodations for taking care of the great fishing fleet which goes yearly to the waters of Alaska and Puget Sound.

These public terminals handle approximately one-third of the waterborne commerce of Seattle harbor; and during the past three years have handled in excess of 60 per cent of the transpacific freights. When one considers that in 1918, under stress of war tonnage, the Washington Customs District, with Seattle the leading port in that district, handling 80 per cent of the transpacific freight, was second district in the United States, one com-

prehends the vast volume of business that has been handled over these public terminals in the recent years.

The great gain of directly operating these publicly owned terminals as a business concern in Seattle lies in the fact that the terminals are open to all commerce, at all times, upon equal terms. In other words, the publicly operated terminal is a free highway, over which commerce may pass, into which any railroad can bring its freight, or any steamship line its cargo.

While in other ports steamship companies are required to pay rental for piers, or a certain amount to get preferential assignments, or a certain amount for berthage, a ship can sail into the harbor of Seattle from any place in the world, can secure a berth at one of these publicly operated docks, without any cost whatsoever for berthing.

When one compares this situation with the Port of New York, where steamship lines are paying now as high as \$300,000 per year for a narrow and inefficient terminal, one grasps the sig-

nificance of the Port of Seattle, with its publicly owned and publicly operated terminals free to the shipping world.

Another factor which makes the Port of Seattle terminal one of the most efficient and economical in the United States, both for the rail and water carrier, is the large size of the ocean piers. Of the seven existing piers of the Port of Seattle, all of them are larger than the average ocean terminal found in other ports. Two of these terminals, Smith Cove Pier A and Smith Cove Pier B, are the largest commercial terminals of pier construction to be found in any port in the world. These two piers are each approximately a half mile in length; one is 310 feet wide, and the other is 365 feet wide. Each of the piers has approximately four miles of railroad trackage, thus enabling some 300 cars to be stored on the pier at one time. These two piers will accommodate at one time twenty ocean freighters of the 8,800-ton type built by the Shipping Board.



Seattle—showing some of the sixty-eight piers and part of the retail section

Smith Cove Pier A has handled seven such ocean freighters at one time, loading and discharging cargo without any noticeable congestion.

Along the whole length of these piers on either side two parallel tracks have been laid. Cargo can be loaded directly from car to vessel. No trucking is required on the docks and the freight is handled almost entirely by mechanical equipment. During the past four years quite a large percentage of the cargo has been thus handled directly at an average cost running around 20 cents a ton. The Seattle Port Commission claims it is a trail-blazer in the matter of reducing the high cost of terminal operations.

rape seed and maize from the *Mandasan Maru* at 39 cents per ton. Six 55-ton boilers were loaded from car to ship's hold at an average of a boiler every 13 minutes.

The Port Commission, in laying out its terminals, did not consider the ocean pier the complete terminal unit but regarded such a terminal unit as complete only when the ocean pier was supported by a terminal warehouse. Thus, the Port Commission has constructed not only warehouses for general miscellaneous cargo but has also built a bulk grain elevator, two large cold storage plants, and storage plants for vegetable oils with a capacity of approximately two and a half million gallons.

warehouses, particularly the plant at Spokane Street Terminal, where the latest facilities have been provided for freezing, handling and storing the fish products of Alaska, have been an inestimable boon to the independent fishermen. Sharp freezing rooms that can be lowered to a temperature of 30 degrees below zero have been installed for freezing the largest fish and the storage rooms are capable of handling over 4,000,000 pounds of fish at one time.

In the large seven-story cold storage building at this terminal which has a capacity of 20,000 tons or approximately 600 railroad cars of freight requiring refrigeration, will be found apples



Great traveling crane used on the Seattle piers—lifts 65 tons, carries 30 tons
Courtesy of Manning, Maxwell and Moore

On the dock it has a 325-horsepower gantry traveling crane, one 125-ton steel derrick, several 35-ton locomotive cranes, a 12-ton stiff-leg derrick, and also a large amount of movable equipment such as tractors, and trailers, portable incline conveyors, electric stacking elevators, gravity roll conveyors and other equipment.

Some unloading records are 5,768 barrels of oil from steamer *City of Spokane* at a cost of nine cents per barrel; 3,000 tons of bean cake and sugar from the same vessel, handled by tractors, trailers and loading platforms at 20 cents per ton; 1,000 tons beans,

In addition to the ownership of the six terminal units the Port of Seattle owns a considerable upland acreage, which has been leased to encourage industrial development.

The Port of Seattle is the pioneer of all Harbor Boards in the establishment of public cold storage terminal plants and these warehouses and facilities are the largest and finest in the West.

Ranking a close second to the great lumber industry of the Northwest, the fish industry has made Seattle the leading port in the United States in the volume and value of fish products of all kinds. The specialized cold storage

and pears from the interior, barreled berries from the surrounding valleys, reindeer meat from Alaska, and beef, eggs, butter and cheese for the local markets.

The Port of Seattle also has its own ice manufacturing plant—50 tons being the output per day—although this capacity can be increased to 100 tons per day with the addition of a small amount of equipment. A large sized storage house, capable of holding 5,000 tons of ice gives an opportunity for the manufacture of ice during the winter months. This ice is used for icing railroad cars and supplying boats with

crushed ice as well, large quantities of which are used by the fishermen's fleet.

At the Bell Street Terminal cold storage plant of 10,000 tons capacity, situated on the central waterfront, dairy products and vegetables are stored for local consumption. Also this plant is given over largely to the storage of mild cured salmon and salt her- ring.

The aim of the terminals there, both public and private, to allow quick loading and unloading of ships so that as little time as possible will be spent in port, thereby bringing about a great reduction in the cost of operating a carrier, has been of distinct advantage to this city.

Seattle has an advantage over any California port in mileage to the Far East, the advantage to Vladivostok being 296 miles, to Yokohama 273 miles, to Hong Kong 302 miles, to Batavia 280 miles, to Manila 476 miles and to Alaska 800 miles. This saving in distance, added to the lack of congestion at terminals here, and with the most modern mechanical equipment, means a big saving to the ship operator.

The profits of the public terminals, instead of being distributed as dividends to stockholders, have been reinvested in additional properties which in their turn are increasing the earning. Taxpayers have received, in addition to the shape of added properties, returns to the extent of 100 per cent on their investment from business operation alone.

Seattle has 190 miles of waterfront. The combined areas of the wharves, public and private, is 101 acres. The spur track capacity of these wharves is 2,100 cars, and there is a berthing capacity of all piers here for 110 400-foot ships. The storage capacity of the wharves and adjacent warehouses is 700,000 tons of merchandise, 5,000 cars of steel and machinery, 35,000 tons for cold storage, 5,000,000 bushels of grain, 12,000 tons of coal, 1,500,000 gallons of fuel oil, and 26,000,000 gallons of vegetable oil.

The number of tons of cargo which can be loaded under normal conditions

on vessels at Seattle per 24 hours is as follows:

General Merchandise.....	\$75,000
Steel and Heavy Machinery..	68,000
Lumber (B. M. feet).....	8,000,000
Grain:	
(a) Bulk	10,000
(b) Sacked	48,000



Publicly owned terminal with capacity for 20,000 tons of perishable products in refrigerated space

Oil:	
(a) Fuel Oil (barrels) ..	10,000
(b) Vegetable Oil	7,000
Coal	30,000

Seattle has another advantage in that it has a great fresh-water or inner harbor and it is the only port in the United States having both fresh and salt water harbors. In 1917 Seattle and the Government, as a joint enterprise, dug a canal and built locks, capable of accommodating a vessel 780 feet long, connecting Puget Sound with the fresh waters of Lakes Union and Washington, which form the boundaries of the city limits. Here ships can load without adjustment of tides and crafts can also rid themselves of sea-growths by going into the inner harbor. The War Department now has before it a recommendation that it widen the canal to 300 feet, deepen it to a depth of 37 feet at low tide, and build another an dlarger lock to facilitate the movement of the largest cargo carriers.

Activities of the public terminals, in building terminals attractive to ship operators, have been reflected in the enterprise shown by owners of private terminals, many of which are excellently suited for needs of individual lines. One of the largest private terminals in Harbor Island, where warehouses

are built in separate units and where the cargo sheds, warehouses, oil bulking plants and storage yards all have the latest mechanical appliances. This terminal was built with a war-time rush, work starting February 1, 1918.

Goods are often moved by tractor trains direct from shipside to the numbered section of the warehouse designated for term- storage without even touching the dock or transit shed floor. There is also a battery of steel storage tanks for bulk oil and similar commodities. Thirty such tanks, with a capacity of ten thousand gallons each, are surrounded by a concrete wall. In another section are wooden jacketed tanks for fish oil, an Oriental nut warehouse and special facilities for handling Oriental cargo.

Seattle for years has been known to ship owners as the cheapest port because there is no compulsory towage or pilotage and with the facilities for expeditious hauling of cargo there is a quick turnaround of the ship. Also, a vessel is sure of a return cargo because of the heavy offerings of lumber, wheat and flour. In May of this year the port became also the cheapest for the shipper for an arrangement was entered into whereby the railroads and steamship companies absorb the handling and terminal charges on through cargo, thus relieving the shipper of these expenses formerly assessed against his tonnage. Also, cargo which formerly had to move out within ten days to get the preferential rail import rate, can now remain here one year and still get the rate when it is shipped. This has stimulated the reconditioning, partial manufacturing and distribution of imports, especially from the Orient, much of this business being taken away from Minnesota transfer and from some of the eastern distributing centers.

Along with the public development of terminals here has gone the extension of privately owned terminals, and Seattle to-day has 68 docks, public and private, with an area of 142 acres, capable of accommodating 120 400-foot ships and the docks have rail facilities for 3,000 cars. The privately owned

docks are modern and compete with the big publicly owned and operated terminals.

Recognition of Seattle as the port where the American merchant marine must meet the foreign competition on the Pacific is found in the allocation by the Shipping Board of five eight-million-dollar combination passenger and freight ships for the run from Seattle to China, Japan and the Philippines. Freight is being transported on these boats from Seattle to Yokohama in ten days, which is faster than freight and commodities are moved from New York to Minneapolis. Recently a shipment of silk was landed in New York 14 days after it left Yokohama, transshipment being made through Seattle.

Puget Sound is the gateway where the British, American and Japanese lines are fighting for supremacy on the Pacific, and the Shipping Board has recognized that if it is to compete with foreign lines it must move cargo on the shortest, most expeditious route.

Seattle is a striking example of what a community can do when it believes in itself and takes advantage of its natural resources and location. Not many years ago, Seattle was a mill town on the tide flats and hillside. People from outside said: "You cannot build a city here. You are cut off from the world by the Cascades." Seattle Spirit answered: "Then we will build a railroad over and through them." To-day electric engines haul great trains over these majestic mountains which water the famous irrigated sections.

Seattleites were told they had no building site; that they couldn't build a city on a mountain. So they said: "Be thou cast into the seas," and it was done. They washed away great hills and with the surplus dirt built up tide flats and factory sites.

What has made possible Seattle being the metropolis of the Pacific Northwest to-day, and a city looking forward to a million population, is a spirit born in the early days when the men of the little community set out with their own hands to build the railroad that would not come otherwise; a spirit that in the days of '93 gave Seattle the distinction of being one of the few American cities to escape a bank failure; that sent to the Johnstown sufferers a relief fund when Seattle was in the ashes; that financed the Alaska-Yukon-Pacific Exposition in forty-eight hours, and opened it complete, on time.

There are many middle-aged people in Seattle to-day who remember the community as a frontier trading post of a few thousand persons thirty-five years ago. Then it had no railroad, one crude dock, no outside commerce, and was cut off from the East by the

Cascades Mountains. It was in 1897 that a steamer, the *Portland*, arrived from Alaska with the first word of the Klondike gold strike. Seattle changed to a bustling metropolitan city with its name on the lips of people in all parts of the world. A more picturesque argosy never sailed the seas than the armada which bare the gold seekers and supplies to the Northland.

The history of Seattle's development is fraught with the romance of empire development. It is interwoven with the progress of the great West. It is part of the Alaskan gold rush and the civilizing of the vast empire of the North. Seattle's progress is a chapter of the modernization and awakening of the Sampsons of the East—Japan and China, oldest and richest of Far Eastern empires and of the new country that stretches across Northern Asia and Siberia.

In 1902 there were 80,000 people in Seattle, in 1910 there were 207,000, and in 1920 the population had jumped to 315,652, and to-day it is 343,000. In 1900 Seattle's bank deposits were \$17,000,000 and in 1920 they were \$154,530,000. The assessed valuation in 1900, based on a 50 per cent value was \$40,000,000 and in 1920 was \$245,832,000. In 1900 less than 700,000 tons of cargo passed over Seattle piers, and in 1920 this had increased to 5,227,000 tons. There was an increase of nearly 1,000 per cent in the commerce moving through the Puget Sound gateway in ten years and in 1918 under stress of wartime cargo movement the Washington Customs District, of which Seattle is the chief port, was the second in the United States, being surpassed only by New York.

Seattle citizens, aroused because a railroad had selected a rival Sound city as its western terminal with the intention of keeping Seattle a lumber camp, showed their pluck and men and women of the community started to build a railroad of their own. Then James J. Hill saw in Seattle a world city and built the Great Northern terminals in Seattle. Then came the Northern Pacific, the Chicago, Milwaukee & St. Paul, and then E. H. Harriman, although he had his railroads in three other Pacific Coast gateways, extended the Union Pacific System to Seattle. Seattle is also Pacific coast terminus of the Burlington System.

Thus, Seattle has five American trans-continental railroad lines and physical connections with two Canadian trans-Pacific systems, more transportation than serves any other Pacific port. The Japanese and British promptly recognized the advantages

of Seattle as a port. Trans-continental railroads terminating in Seattle have a combined acreage of railroad yards of 2,621 acres, with 450 miles of track. Spur track capacity of the wharves, both ship side and land side, is 2,000 cars. To accommodate its ever-increasing foreign coastwise trade Seattle has sixty piers, and seven terminals are municipally owned and operated.

Location has established Seattle as the American port through which passes the larger part of the exchange of commodities between the United States and the consumers and producers of Alaska and of the Orient. The gold, copper and fish of Alaska, and the rubber, oil, silk, hides, tea and other raw materials of the Orient come to Seattle, and the ships that bring them carry back lumber, wheat iron and steel, machinery, clothing, and the hundreds of other manufactured articles that the people of the countries of the Pacific require.

Seattle is also the ocean-gate through which the lumber, wheat, fruit, copper, lead and other raw products of the Northwestern part of the United States make their way to tidewater and thence by ships to the Atlantic, to Europe, and to world markets.

LEGAL BACKGROUND OF THE STRIKE INJUNCTIONS

(Continued from page 16.)
case." For my part, letters and conversations that I have received and had with several lawyers in different parts of the United States, who have really studied these questions, prove to me that the views of many eminent lawyers in the United States are in accord with the views which I have expressed herein and at utter variance with the admittedly hasty views, on this important question, which Mr. Untermyer has so glibly expressed. As yet I have found no lawyer, except Mr. Untermyer, who stood "simply aghast" at the terms of that injunction order.

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AMERICAN INDUSTRIES

D. M. EDWARDS, EDITOR AND MANAGER

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LAW AND DUTY

"NOW I want to say that those who incite to disorder at the time of an industrial dispute are the real enemies of labor. They really plot revolution, that is what those gentlemen are after, and they go just as far at one stage as they dare to go, and then they stop, waiting for another time.

"I want to say that the most serious harm that is done to the cause of labor is that which results from lawlessness and violence. A worthy cause does not need to be supported by lawlessness and violence. A just cause has back of it the greatest weapon in this country that it can possibly have, and that is public opinion.

"Lawlessness deprives the cause of the support of public opinion.

"Why, no greater injury to the cause of labor has ever been done in this country in my judgment than the Herrin massacre, and I want to say that as long as I am Governor of this State we will have no Herrin massacre, if you please."

These utterances were made by a man who is not merely playing politics for temporary gain, but by one to whom politics seems to be but an incident in the business of running a state government on a business basis. Governor Miller has impressed the majority of people that he is giving a straight, economic administration. He has been a good friend of labor, not the kind of a friend that believes in keeping friendship with patronage, but in doing the larger things that count for future peace and business development. He believes in law and order. He is determined to have it, for he is firmly convinced that lawlessness is not only the greatest enemy of industry but of labor itself.

He believes in the State Police as a great means of preserving order and of enforcing the laws as passed. He says the Governor is charged with preserving the peace and that he will send the State Police at any time that the local forces are not able to cope with a situation—"Not to intervene in the dispute, not to take one side or the other, but to suppress lawlessness, to suppress disorder, to preserve the lives and property of the people, to preserve the liberty of the people."

Such an attitude throughout the country would do as much as any other one thing to restore the whole industrial community to sane, safe and sure prosperity.

TWO PER CENT IMMIGRATION

AMERICA has gone back to work. This is shown in reports from all over the country. But, also, some of our Congressmen have gone back to work, carrying monkey-wrenches. They have begun to tinker with the immigration works; they want to change the present law and cut the quota of aliens coming to this country from three per cent to two per cent.

If this is done, where are we to get our common labor—the diggers, the road workers, the building and farm hands and all the other persons required for the foundational work underlying all production and business? Certainly not in America, for the American youth will not do the work; he wants something easier, something more congenial.

Government Above Unions

(From statement by Attorney-General Daugherty at Chicago, September 1, in application for injunction to restrain striking unions from interference with the railroads.)

"THERE comes a time in the history of all nations when the people must be advised whether they have a government or not. The underlying principle involved in this action, is the survival and supremacy of the government of the United States. No union or combination of unions can, under our law, dictate to the American Union. When the unions claim the right to dictate to the government and to dominate the American people, and deprive the people of the necessities of life, then the government will destroy the unions, for the government of the United States is supreme and must endure. So long and to the extent I can speak for the government of the United States I will use the power of the government within my control to prevent the labor unions of the country from destroying the open shop."

Official and unofficial reports show that there is practically no such thing as unemployment in this country to-day; there has been a shortage of common labor all through the summer, according to some surveys. This began with the rush of building operations and continued with the resumption of seasonal occupations that start up in the fall. The great road-building programs under way all over the country took up whatever slack there was in the ranks of the unemployed.

As against the national conference on unemployment, called by Mr. Hoover a year ago, we have no need for such a thing to-day; the necessity is for a national conference on unfilled jobs. The great need is workers. There are not enough day laborers to do the hand and hod work that American youth refuse. Even under the present three per cent restriction there are not enough workers coming into the country to make up for the flow outward of those industrious people who save their money so they can go back to the land of their birth.

The Two New Directors Of The N. A. M.

GEORGE ALFRED GALLIVER of Massachusetts

GEORGE ALFRED GALLIVER, President of the American Writing Paper Company, of Holyoke, was born at Ingersoll, Ontario, on January 9, 1872.

He started his industrial career as a boy in the position of telegraph



Mr. Galliver

operator on the Pere Marquette Railroad and was steadily advanced through the various departments until when he had reached his majority he occupied an important and confidential position with the operating head of that road.

In 1890 he became Sales Manager of the United States Graphite Company, of Saginaw, Michigan, which position he held for two years, when he went with the Chicago Paint Company as Secretary and Treasurer of that corporation, remaining with them for two years, and then transferring his activities to Merkel & Company, produce commission merchants of Chicago, becoming president of that organization.

In 1895 he became the Superintendent and subsequently the Sales Manager of the Monarch Cycle Manufacturing Company and the Chicago Sewing Machine Company, with which concerns he remained until 1898, when he became the Scientific Representative of Parke, Davis & Company, of Detroit, Michigan.

In 1900 he accepted the position of Sales Manager of the American Bicycle Manufacturing Company, of Chicago, and two years later became the General Manager of the Stearns & Culver Lumber Company, of Bagdad, Florida.

From 1906 to 1909 he was General Manager of the Domestic Sewing Machine Company and the National Sweeper Company, of Newark, New Jersey, and from 1909 to 1917 he was associated with Harrison Williams, public utilities and investment bankers, and during that period served as President of the Central States Electric Corporation, Vice-President of the Federal Utilities, Inc., and the same positions in the Republic Railway & Light Company, the Mahoning & Shenango Railway & Light Company, and was President of the Electric Investment Corporation and of the Utilities Securities Corporation.

Four years ago he became President of the American Writing Paper Company, of Holyoke, Mass., which position he still holds.

He is a Director in the Paper Specialty Manufacturing Company, the American Paper Exports, Inc., of New York, the Chicopee National Bank, of Springfield, and for three years has been Vice-President of the Associated Industries of Massachusetts.

He is a Director of the Eastern States Agricultural & Industrial League, a trustee of the Holyoke City Hospital and a member of a large number of scientific and trade associations.

He married Lillian Campbell, of Deland, Illinois, on July 7, 1901.

AN OPEN FORUM

The large number of letters received by the Editor of "American Industries," discussing industrial, financial, taxation, immigration or matters relating to general business, has prompted the opening of the columns of "American Industries" to its readers for discussion of any subject they may wish to take up.

An Open Forum for these communications starts in this issue, page 29.

E. J. MILLER of Missouri

E. J. MILLER, President of the St. Louis Screw Company, is a director of the Associated Industries of Missouri, also the Manufacturers' and Merchants' Association of St. Louis. He is also a councillor of the National Metal Trades Association.



Mr. Miller

Mr. Miller is one of the strongest advocates of the open shop in Missouri and has been very active in promoting this idea in St. Louis.

The name of E. J. Miller is one to conjure with in the industrial district of St. Louis. He is known as a careful conservative student of problems which affect business and his advice and counsel is always solicited in their solution. The St. Louis Screw Company is one of the largest of its kind in the Middle West, and the system of employment under which it operates, originated by its president, has been extremely successful in the prevention of labor difficulties. In a recent referendum taken by the St. Louis Chamber of Commerce on the open shop, Mr. Miller was asked by the committee to write the affirmative argument, the negative being drawn by a prominent labor leader. The result of the referendum was as follows: Fourteen hundred and thirty-nine in favor of open shop; twelve for closed union shop; forty-six for closed non-union shop.

CONSERVING OUR HARDWOOD

(Continued from page 18.)

finished articles), would be so far-reaching and important as to approach the revolutionary.

The foregoing suggests the possibilities in the plan of intelligent grade formulation. Such grade specifications cannot be prepared without the coöperation of consumers, for there must be the consideration of the utilization of the lumber, because it would be absurd for the producers to attempt to standardize what consumers cannot use, and consumers cannot standardize what manufacturers cannot produce, and in order for one to be commensurate with the other, it must be the result of the joint or united judgment of the producers and consumers. Therefore, the hardwood manufacturers realize that a complete, accurate survey in considerable detail must be made of the consumption uses, as well as of the production possibilities.

The consumers and their needs are basic factors in the problem equally with the producers and their production possibilities. From these factors arises the vast engineering problem upon which standardization proposals and conclusions must be considered and decided. To endeavor to standardize grade definitions or grade specifications without adequate, sufficient and accurate basic information of this kind would be as futile as it would be illogical.

But there can be no doubt that when this is accomplished, it will result to the enormous advantage and benefit of producers, consumers and the public. This results from a consideration of the question of waste.

Waste, which is the greatest profiteer, enters everywhere into the question—it is in fact, the dominant factor.

The subject of waste is inadequately understood by most consumers. This is because (except in unusual and isolated instances) the consumers' knowledge of waste is confined, generally-speaking, to the total waste or average waste. The enormous waste in certain parts of his lumber is obscured in the average. For illustration, a furniture manufacturer may have, for example, a waste of 30 per cent on a certain carload of lumber graded according to present standards. Many of the boards in the car he could use with a waste of, say, 10 or 15 per cent. Other boards in the lot, not adapted to his particular need, he could use only with a waste of, say, 50 or 60 per cent.

These figures may not be precisely accurate, but they are approximately so, and they fairly illustrate the highly unsatisfactory and wasteful condition

now obtaining in the grading and consumption of hardwood lumber.

Practical manufacturers, consumers and scientific students are agreed that if the proper survey is made to ascertain the various needs of the different consuming industries, in point of sizes and kinds of hardwood lumber, as well as the relative volume thereof required, that grade rules can be formulated and standardized—grades being defined with the specific purpose of filling specific consumption requirements—so as to reduce the loss in waste to the minimum.

Stated in another way, it has been conservatively estimated that the average fabricating consumer of hardwoods could eliminate more than forty per cent of his present waste if grade rules based on his specific requirements governed in the purchase of his lumber, instead of the unscientific rules of haphazard growth which are commonly used. Industrial engineers have shown in actual results, in different plants, the possibility of eliminating from twenty to sixty per cent of the waste.

The advantages to be derived from the measurable accomplishment of such a program as is indicated is so apparent as to be self-evident, and should need no argument to demonstrate the high desirability thereof. No one can with reason oppose as undesirable a universally recognized standard of nomenclature or names for lumber and lumber products. The lumber industry as a whole—embracing all woods of every variety—is working for the accomplishment of a system of standard names and designations. This is an entirely different questions from the

definition or formulation of rules, although some have seemed to endeavor to confuse the situation by stating that it would mean the same rules and the same grade definitions for lumber of all varieties—hardwood and softwood. This, of course, is not true.

We have discussed largely the question of proper grade definition, but it is as important that the integrity of grades be maintained as it is that they be properly defined. And one of the items of the simplification and standardization program to which the hardwood manufacturers are committed is provision of adequate guarantees to the public and the buyers of lumber to guard against grade mixing and jugglery. These means embrace provision for such practical measures as grade-marking the lumber, car cards showing quantity, quality, etc., thereof.

An association of hardwood lumber manufacturers called the Hardwood Manufacturers' Institute, nation-wide in its scope, is committed to the accomplishment of the correction of conditions especially affecting grade rule definition and merchandising methods which have too long persisted.

In this work it seeks and is receiving the aid and full coöperation of consuming interests, the trade journals, the agencies committed to advancing the cause of conservation, in fact, of every element of the public interested in the elimination of waste, the prolongation of our hardwood timber supply, the fullest practical utilization of our hardwood forest harvest, the most economical fabrication of the lumber in consuming plants, and the lowest price to the public of the finished product.

Building Leads in Activity

THE building and allied industries lead all lines of activity at the present time, according to the seventh bi-monthly review of industrial economic conditions just issued by the National Industrial Conference Board. Reliable authorities, it is said, state that the country during recent months has been undergoing a building boom without equal in the history of the country.

"It is estimated that \$3,000,000,000 has been awarded in contracts for residential buildings and that housing quarters sufficient for a million families will therefore have been provided by the end of the year," the review adds. "An equivalent amount has been awarded for construction of business buildings and factories.

"July was the fourth successive

month in which the previous building records of the country were broken. The great amount of activity has resulted in numerous reports of labor shortage of both skilled and unskilled workers in all sections of the country. On account of increased demand prices of building materials have been steadily rising. The increase has been felt particularly in brick, cement, sand, flooring, shingles, roofing, nails, paints and other standard materials.

"The iron and steel industry, which is frequently taken as a business barometer, has been reflecting general business conditions. On the one hand, the demand for iron and steel has been steadily increasing since the beginning of the year, due, however, to shortage of fuel."

Need For A National Coal Policy

All the circumstances of the present situation indicate equally that the industry must recognize itself as nation's fuel agency and establish a definite program of public relations

Written especially for AMERICAN INDUSTRIES

By JAMES A. EMERY

General Counsel, National Association of Manufacturers

WHATEVER disagreements of policy and differences of viewpoint exist in the coal industry to-day, can there be any denial that it needs to establish the means of knowing the facts about itself and becoming capable on every occasion of expressing its common judgment, accurately ascertained, through representative spokesmen. I am sure that for such a movement there is need and a warm welcome.

Do not all the circumstances of the present situation indicate equally that the industry must recognize itself as the nation's fuel agency, and establish a definite program of public relations, that it shall see itself, not individually or remotely, but as a whole and directly, charged with a heavy social responsibility? That means, if it means anything, the self-imposed policy of recognizing in practical terms the necessity of originating self-restraint within the industry upon those of its members who would take undue advantage of public necessity, and equally firm and determined resistance of every effort to establish unauthorized, unnecessary and ineffective public regulation. The very recognition of the industry's public obligation by its members is the strongest bulwark against unwise or mischievous efforts to excite an invalid or unprecedented exertion of public authority, or to thrust upon Congress governmental relationships that belong to the states. * * *

I believe the industry would fail to meet either public expectations or obligations unless it frankly meets its employment situation. That became, over a period of years, an organized relationship. The United Mine Workers have long maintained collective relations, especially with the operators of the central competitive field. But, to an increasing degree, the organization has not succeeded in either unionizing or collectively bargaining with the West Virginia fields. Yet, increasingly, the earnings of the independent miner, under equally favorable working conditions, but at a lesser wage rate, have been greater than those of the union miner. No circumstance can excite greater suspicion of the uneconomic

character of the agreement than this fact, unless it be the continuing insistence of certain groups of union operators that the independent operator shall be forced, through the agency of the union, to accept the arbitrary production burdens under which they compete.

But I do not seek to argue now the relative merit of these policies, but I do urge that the conditions they have made demand study and correction in the public and private interest. Unionism and non-unionism are facts in the coal industry that have disintegrated the operators and solidified the miners. It is not for any operator to determine whether any other operator shall deal with unions or not, but it is for every operator to realize that experience demonstrates that the industry is confronted not merely with an employment situation but an employment philosophy. The majority of its members are dealing with an organization that believes in the nationalization of their property, and predicates its wage demands upon "the social value of its product," which its spokesman declared to mean the market value of the commodity, less the cost of transportation. It is, moreover, manifestly determined by its agreements to establish a monopoly of opportunity for employment which is frankly intended to engross the whole field. Each contracting operator is not merely, by the terms of his agreement, a recruiting sergeant for the proponents of nationalization, but, through the check-off system, the collector of funds employed for amazing purposes. Within a year, it is a matter of court record, revenues so collected have been expended in the sum of more than \$2,500,000 to finance violent activities in the unionization of the independent miners of West Virginia, and much of that fund was even employed in the purchase of firearms and ammunition to destroy order, resist authority and plunge that state into civil war. * * *

Is the coal industry or society the better for any form of collective bargaining in which one of the parties continually sets up its own strength as the means of enforcing its own interpretation of a contract? Should the indus-

try not therefore consider whether it ought, in the public interest as well as its own, consider the ways and means of preventing the miners of 30 states from abandoning production because of disagreements with the operators of four states? Ought the industry not equally to consider whether collective agreements ought not to be made judgments of record in courts of law that they may be interpreted and enforced not by the will or power of the parties, but through the judgment of the only tribunal that saved civilization from the methods of barbarism?

FARMERS AND BUSINESS

(Continued from page 8.)

executives' committees and banking institutions, seeking their aid in "replacement of agriculture on a basis of sound prosperity."

Quoting from statistics, President Howard declared the farmer's average individual profit in 1920 was only \$186, out of which he had to educate his children, pay doctor bills, buy clothes, pay for deterioration and upkeep of his machinery and insurance.

"This is the third consecutive year prices received have fallen below cost of production," President Howard declared. "If the farmers cannot more than make the cost of production they will go out of business."

U. S. RADIO FOR SWEDEN

Competing with the English, French and Germans, the Americans were successful, according to a message received from E. F. W. Alexander-son, chief engineer of the Radio Corporation of America, in securing a contract with the Swedish Government for furnishing apparatus for a high power radio station to handle direct wireless communications between the United States and Sweden.

Are you looking for a New York office location?
If so, see announcement on page 30.

Bits of News About Men in Industry

THE fifteenth annual convention of the Southern Commercial Congress will be held in Chicago, November 20-22, under auspices and on invitation of the Chicago Association of Commerce and the Illinois Manufacturers' Association. Julius Rosenwald is honorary chairman, former Secretary of War Jacob M. Dickinson chairman of the executive committee; and George Woodruff, Vice-President of the National Bank of the Republic, treasurer of the committee of one hundred prominent Chicago business men who are managing the convention.

The theme of the convention will be the commercial relations of the South to the Middle West and the Mississippi Valley.

Immediately after the Chicago convention ends the Southern Commercial Congress will hold a conference in a Texas city, to be announced later, on trade relations with Mexico, and will from there take a trade mission to Mexico City on invitation of the Mexican Government. This will be the seventh foreign trade mission of the Southern Commercial Congress in the past fourteen years. Governors of States will officially commission the members of the Mexican trade mission.

The Crystal Ice Company, of Mauch Chunk, Pa., has been formed by Harry L. Pobst, Samuel S. Weiss, Jr., and S. S. Bratz, Sr., local business men.

Election of several engineers and educators to the Board of Councillors of the Eye Sight Conservation Council of America is announced from the headquarters of the Council in New York by Guy A. Henry, general director. Engineers chosen include Prof. Joseph E. Roe, head of the Department of Industrial Engineering in New York University, and Dr. F. C. Caldwell, professor of Electrical Engineering in Ohio State University.

Technical Paper 306, "Operation and maintenance of electrical equipment approved for permissibility by the Bureau of Mines," by L. C. Ilsley, electrical engineer, has just been issued.

A permissible schedule of the Bureau of Mines establishes certain minimum standards for safety; it gives details of test methods adopted to determine whether these standards have been met, and a list of charges for such tests. Any manufacturer has the privilege of submitting his product for test in accordance with the conditions outlined in the schedules. His action is wholly voluntary, for the Federal Government has no jurisdiction as to what equipment shall be used in mines, this authority being left to the various States.

An exceptionally usable Foreign Commerce Handbook has just been issued by the Foreign Commerce Department of the Chamber of Commerce of the United States. Within the space of 31 pages this publication condenses a mine of information as to sources of service in foreign trade. Its alphabetical arrangement makes it a handy reference work for the busy exporter or importer. The book contains also a list of the topics of national importance that are engaging the attention of the National Chamber's Foreign Commerce Department Committee under the chairmanship of Willis H. Booth, of New York.

Dwight P. Robinson & Co., Ins., has been awarded a contract for the construction of a cement mill at Birmingham, Ala., for the Lehigh Portland Cement Company, of Allentown, Pa. The mill will have a capacity of 1,000,000 barrels a year.

Julian S. F. Edwards, president of the Maillison Braided Cord Mills, Athens, Ga., destroyed by fire October 21, has announced the plant will be rebuilt immediately and on more modern lines.

The Monroe Motor Company of Indianapolis will locate in Louisville if efforts to consolidate with a manufacturing concern there prove successful, Warren T. Godfroy, attorney, representing the company, announced. Mr. Godfroy said that the company has \$750,000 quick assets and no indebtedness. The plant, if moved there, he said, would employ 400 men and turn out thirty cars a day.

The Uniform Building and Loan Association, Philadelphia, has filed notice of increase of stock from \$1,000,000 to \$5,000,000; the Parkesburg, from \$500,000 to \$2,000,000, and the Center, Bellefonte, \$100,000 to \$1,000,000. The United Laundries, Pittsburgh, gave notice of an increase of stock from \$200,000 to \$1,000,000, and of \$500,000 of bonds.

Announcement was made recently that the American Tank Car Company had purchased a 300-acre tract twenty miles above New Orleans and immediately would begin construction of a large plant for the repair and manufacture of steel cars, the plant later to be used for the production of wooden cars.

At a meeting recently of the directors of the Eastern Manufacturing Company of Boston, manufacturers of pulp and paper, F. R. Ayer resigned as president and director and was succeeded by Stuart W. Webb, who has been chairman of the board of directors. Mr. Webb recently resigned his connection with the investment house of Bond & Goodwin, and it is understood that his entire time in the future will be devoted to his new work.

J. R. Slattery Company, Shreveport, La., plans the construction of a sixteen-story office building of fireproof construction, the cost to be \$1,500,000.

The Glasgow Iron Company completed negotiations for the purchase of the plate mill of the bankrupt Nagle Steel Company at Glasgow, Pa., upon which the latter spent thousands of dollars to modernize it for manufacturing steel plates. It probably will soon be put in operation and 200 men employed.

Four charters for power companies, which eventually will link the Metropolitan Edison Company of Reading with Easton and other points in the East, were approved recently by Governor Sproul. Their incorporation was approved by the Public Service Commission. The companies are the Lower Milford-Lehigh Power and Dunham-Busks Power, of Easton, and the Washington-Berks Power and Hereford-Berks Power Companies, of Reading. Capital of each is \$5,000.

A plant for staining shingles, the only one on the Pacific Coast, will be established at Vancouver, Wash. A building on the dock of the G. M. Standifer wooden shipyard site, which is now the property of the city, has been leased by a firm of lumbermen and operations will begin shortly.

The American Tobacco Growers' Coöperative Exchange has been formed in Louisville by representatives of coöperative associations of tobacco growers of the United States and Canada.

**Do you want to locate your
New York office in a fine,
bright suite?
See page 30.**

AN OPEN FORUM FOR OUR READERS

All letters to the Editor, intended for these columns, must be accompanied by the name of the author which however will not be used if the express stipulation is made. We wish to make it quite clear that the letters express individual views and not those of "American Industries."

THE UNEMPLOYMENT QUESTION

To the Editor of AMERICAN INDUSTRIES:

In your October issue, under the title, "Unemployment and Some Causes," Mr. Hugo Bilgram sets forth his views on the nature of money and of credit.

What Mr. Bilgram says about unemployment may be stated thus:

"The periodical recurrence of unemployment is due to the existence of laws conferring an exclusive right of issue of currency upon a few very rich men, with the result of enabling these to impose an enormous toll on the producers of wealth for having their debt acknowledgments converted into a medium of exchange. Invested with that power, the few impede the issue of currency, principally through the imposition of unreasonably high discount rates, supplying the business world with an insufficient amount of the medium of exchange. This causes unemployment."

It might be asked why, then, "the periodical recurrence of unemployment" was quite the order of the day long before the enactment of the laws to whose existence Mr. Bilgram attributes such recurrence; but, granting the soundness of Mr. Bilgram's diagnosis, and assuming that some amelioration might follow his proposed formulation of "laws that put the issue of currency on a competitive basis," the question remains, why Mr. Bilgram does not go a step further backward along the line of causation, and inquire why we have, upon our statute-book, the laws of which he complains, and why, in all ages, the covetous and crafty have seen to the establishment of conditions which further enrich "a few very rich men" at the expense of the rest of us.

The answer is easy.

We endure such laws and their resulting distresses because we have not yet quite outgrown (although we are rapidly outgrowing) an anti-social "business system," unavoidably inherited from countless generations of barbarous ancestors; a system under which

each of the world's inhabitants is made to see and to feel (1) that the one thing needful is to get money, and (2) that (other things equal) a man gets money in proportion as he devotes the best that is in him to the getting of it, unhampered by nice scruples about the comfort of his fellow-men and by concern for the welfare of the community.

Such a system breeds "smart Alecks" as the cheese breeds maggots. Necessarily defiling all it touches, it especially defiles the public functions; for the public is the "easy mark" of the sharper. It pays the private business man to defend his own private business against spoliation; but nobody can earn a profit by looking after the public interests.

Mr. Bilgram is eminently right in asserting that unemployment is "traceable to some world-wide defect in our industrial system." That defect is its inevitable and irresistible appeal to our meaner impulses.

The slightest consideration of the relation between cause and effect must show that political corruption and the enactment of unjust laws are the natural outcome of a "business system" whose slogan is "Every man for himself, and the devil take the hindmost!" All history shows that this system, while it might work with angels, is fatal to decency in human beings.

Happily, we are being irresistibly swept (not by the conscious efforts of reformer, but by our own selfish demand for better service) into that modern and profitless (but far from unprofitable) system which already gives us our Courts and our Post Office, our public streets and bridges and parks and schools, our police and fire protection, our weather service, our river and harbor improvements; a system which, in so far as it eliminates the chance of profit, eradicates the root of all evil; a system under which we are being unconsciously transformed into ladies and gentlemen.

Thoughtless persons (and thoughtless persons in their moments of unthoughtfulness) cry out, "Our governments are corrupt now. To extend

their powers would be like eating more toadstools because toadstools have made us sick." They fail to distinguish between (1) the pure beneficence of our modern communism and (2) our still remaining and necessarily corrupting individualism, from which it has not yet quite broken free, and by which (so long as the two must be bed-fellows) it is of course polluted.

In proportion as the modern system has displaced the ancient, peace and plenty have displaced strife and poverty; but the transition cannot be completed over-night. It is coming (as our present enormous advance in that direction has already come) without disturbance, and, for the most part, unnoticed; and that by virtue of its very beneficence. Like the air we breathe, it is so perfectly adapted to human nature that most humans do not recognize it for what it is, and do not realize the profound change which has come about.

In Russia the attempt was made to force a travesty of the modern system, all at once and by fiat, upon a people saturated, like the rest of us, by inheritance from a long line of ancestors, with the demoralizing effects of the ancient system. Of course the outcome was disaster. And the thoughtless, ignoring the blessings already bestowed upon us by our still imperfect communism, and unable to distinguish between communism itself and a stupid (though probably crafty) attempt to dump it suddenly, cry out, "See what 'communism' has done for Russia!"

JOHN C. TRAUTWEIN, JR.
Philadelphia, October 2.

GOVERNOR BONE AND ALASKA

To the Editor of AMERICAN INDUSTRIES:

I wish to express one man's appreciation of the enterprise of AMERICAN INDUSTRIES in obtaining such a clear, strong and informative article on Alaska as was contributed in your September issue by Governor Bone. It is the first and finest exposition that I have ever seen, of the value and worth of our possession in the cold North; it gave me a beautiful bird's-eye view of the entire section; and it brought out very clearly that that part of our country is a gold mine of resources, not a land of polar bears big as ocean liners and icebergs big as mountains.

Governor Bone's fearless attitude and determination to have an administration of business instead of an administration of politics, certainly should be commended by every citizen in the East who takes an interest in the development of the West. Governor Bone's straightforward article convinces that the bureaucratic policies

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that have prevailed for so long will be done away with and that Alaska will grow and prosper.

Governor Bone's statement that the land for which we paid \$7,200,000 has already yielded more than \$500,000,000 in mineral wealth alone, gives an excellent indication of the tremendous possibilities in our northwest territory. When the government railroad is completed and a sufficient means of transportation is provided for the products of this section, there is every reason to believe that this one of our dominions will give a good accounting in the productive world.

Yours truly,

HENRY F. WOODS.

New York City,
October 7.

INDUSTRIAL MOTION PICTURES

To the Editor of AMERICAN

INDUSTRIES:

With a great deal of pleasure and satisfaction, I have noticed that AMERICAN INDUSTRIES has taken up the subject of industrial motion pictures. This is a matter which needs a great of enlightening, as many of the manufacturers who, in the interest of education and betterment of industry, have had pictures made, have had unfortunate results. Some of the pictures have cost many times more than estimated; and others have had practically no satisfactory distribution, after they have been produced.

There are two important phases of this question which I should like to see explained in some way. They are:

1. How can a manufacturer tell what a picture will cost; how can he get an estimate that will hold somewhere near correct when the picture is made. I should like to know if there are picture producers who will guarantee to charge only what they estimate when the picture is ready to be delivered.

2. How can a manufacturer get distribution of his picture? This is the chief consideration. We might just as well save our money as to have pictures made and then be compelled to shove them up on the shelf, because we are told that the theatres will not carry advertising pictures. If you will think the matter over, every single picture made, is an advertising picture in one way or another; and I have seen some very flagrant impositions on the public by the insertion of advertising in some of our supposedly best pictures.

Very truly yours,

C. D. MERRITT.

Pittsburgh,
October 14.

New Field Of The Lowly Potato

Manufacture of white potato flour, started during the war as a substitute, has developed to the point of a real industry that will help to stabilize the potato market and equalize the demand

Written especially for AMERICAN INDUSTRIES

By W. A. NOEL, M. E.

Associate Development Engineer, Bureau of Chemistry, U. S. Department of Agriculture

WHITE potato flour was manufactured during the war and offered to the public as a substitute for wheat flour. Due to the food shortage and prompted by patriotic motives, a large number of people were very enthusiastic about using it. But when the necessity for substitutes no longer existed, the demand for potato flour ceased.

In the first attempts at manufacturing potato flour, the processes used were rather crude as compared with later methods. The process as formerly carried out was one evolved by the dehydration enthusiast. He made his flour by grinding the dried chips of dehydrated potatoes. This method proved to be an expensive one, hence not practicable. A great deal of hand labor was required in slicing and drying and grinding. The long time required to dry the potatoes restricted the output so that the flour had to be sold at an extravagant price.

About 1917 the "hot drum" or roller process was brought to this country from Germany where it had been in use for some time. Before the war, considerable quantities of potato flour and potato starch were made in the Netherlands, Denmark, and Germany. The first flour was used for stock feed.

When an attempt was made to manufacture potato flour in America by the roller process, the war prevented importation of machinery so the "flaking" machines were constructed here. Much attention was given to producing flour and a better product was manufactured here than had been imported before the war.

Of all the vegetables raised in America, no one crop is of more importance than the white potato. In 1920 there were 430,458,000 bushels raised in the United States. Approximately 50,000,000 bushels of these potatoes were wasted in spite of the fact that the good keeping qualities of the potato, together with its food value, are responsible for the important position that it occupies in the category of vegetable diet.

(The author acknowledges the assistance rendered by C. E. Mangels, formerly of the Bureau of Chemistry, in obtaining the data contained in this article.)

The larger and more regular shaped tubers are selected for table use, while the smaller and irregular shaped ones are undesirable. The effect of this



W. A. Noel

preference reacts on the grower to his disadvantage and financial loss. It is necessary for him to sort out the best ones and to discard the others in order to get a good price. This sorting has been done without any well established precedent, each case being handled according to the dictates of the individual doing the sorting. Recently, the United States Department of Agriculture has established standard grades for potatoes, classifying them as U. S. No. 1 and U. S. No. 2. These grades are enforced in some states, while they are followed voluntarily in others, which tends to overcome the lack of uniformity.

Ordinarily, the U. S. No. 1 grade of potatoes is all sold at a good price. The U. S. No. 2 grade is usually sold at a lower price and those not fit for the second grade are thrown away or used as stock feed. In this latter class are found culls, frosted, sunburned, second growth, cut, rotted, scabby, blighted, and other diseased or mechanically injured stock. During years of plenty, only the very best potatoes will find ready sale at a good price while during years of a short crop, the No.

2 grade will perhaps command as good a market value as the No. 1 grade, but the culls will be little affected by market conditions.

The potato starch industry has in the past utilized some of the cull stock. A high grade potato starch can be produced from very low grade raw material, including otherwise worthless frozen stock. The price of potato starch is usually very low, being governed by the market value of corn and other starches rather than by the supply of potatoes. On this account the potato starch manufacturer must depend on securing his raw product at a very low price, excluding as a rule, No. 2 potatoes from his supply.

The potato flour industry, making use as it does of a raw product that must of necessity be superior to the low grade cull stock but not necessarily of the first grade, should do much toward stabilizing the potato market by equalizing the demand year by year, and at the same time stimulate the agricultural pursuits producing the crop. In the manufacture of starch a yield of 16 per cent is obtained, whereas in the manufacture of flour a yield of 20 per cent is obtained. The potato flour is used as a natural qualitative additive in the baking of bread, the manufacture of macaroni, sausage, etc., and accordingly commands a better price on the market, hence the potato flour manufacturer can outbid the potato starch manufacturer for No. 2 potatoes and the better culls. He must, however, secure his potatoes at a comparatively low figures since raw material costs amount to more than 50 per cent of his entire manufacturing costs. Although at some future time the potato flour industry may prove to be commercially successful, the production of potato flour cannot be recommended at the present time in the United States as a method for utilizing potatoes.

The margin of profit in potato flour manufacture under normal conditions will not be large, so to be profitable a rather large production will be necessary. A unit installation having a capacity of 20 tons of fresh potatoes per day is the minimum advisable capacity. This will mean a production of

4 tons of flour per day. Under favorable conditions a plant may be expected to operate seven months a year.

For the manufacture of flour from Irish potatoes, the author has prepared designs containing improved ideas and advance thought on the layout, construction, etc., of a plant for efficiency, economy, and continuous operation at low operating cost through elimination of all possible dispensable hand labor.

The different steps involved in the manufacture of flour are as follows: First, the potatoes are washed, then peeled, sorted, cooked, macerated, dehydrated, ground, bolted, and packed.

The type of washer used, consists essentially of a wooden or concrete tub approximately 3' x 3' x 15' fitted with a false slat bottom and divided by partitions into three sections, a series of paddles are attached to a central longitudinal shaft, and plumbing connections are provided so as to fill the tub with running water and care for the overflow and drain-off of dirt and stones. The potatoes are fed into the head end of the tub and worked through the water by the agitator paddles being transferred from one section to another by the lift paddles. This agitating action of potatoes with potatoes and with the water and paddles, removes the adhering soil, etc. A small drag elevator picks up the potatoes now smooth and clean and conveys them to the peeling machine.

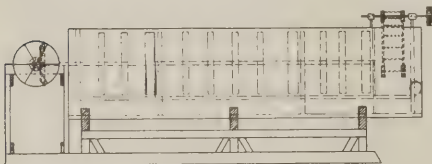


Fig. 1
POTATO WASHING MACHINE

The peeling is accomplished by the use of friction paring machines. There are several makes of this type of vegetable paring machine on the market at present, but the principle of operation in all is the same. Friction paring machines consist essentially of a cylindrical container with a revolving concave plate as a bottom. The bottom always has a roughened surface and the sides may be either smooth or rough. The revolving of the bottom serves to bring all the potatoes in contact with a roughened surface, and water sprayed on the potatoes carries away the pulped peel.

The paring machine removes not only the thin peel but also a portion of the white flesh of the potatoes. Therefore, if the potatoes are subjected to the action of the peeler for a greater length of time than necessary, a portion of the potatoes will be pulped, carried away, and wasted. It is necessary, therefore, to control very closely the length of time the potatoes are sub-

jected to the action of the peeler. In making potato flour, it is not necessary to remove every particle of peel from the potato, but only the major portion. The potatoes should never be left in the paring machine until the "eyes" are entirely removed. Under ordinary operating conditions, and using clean well-washed potatoes, one minute in the paring machine should be the maximum time and in most cases half that time will be ample.

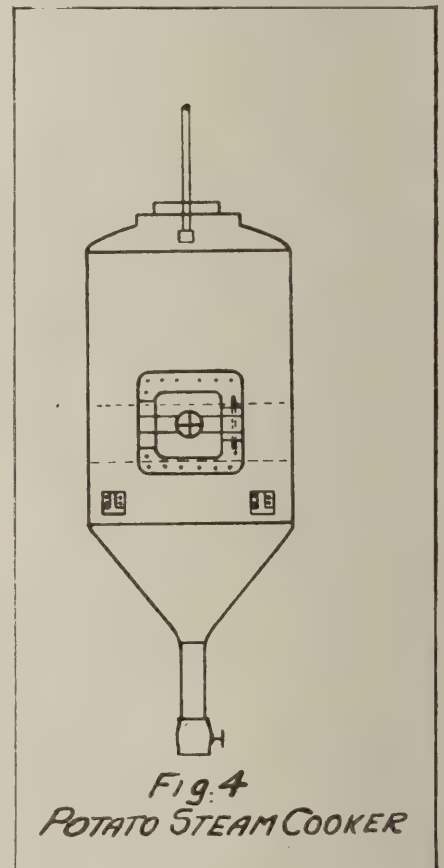
Attempts have been made to both wash and peel the potatoes in one operation—using the paring machine for this purpose. The stream of water playing on the potatoes during the paring operation was used to remove and carry away the adhering earth and sand. In order to insure the removal of the dirt, however, it was necessary to keep the potatoes in the paring machine for some length of time. This method, therefore, caused a larger waste of potatoes than was permissible, and the yield of flour per bushel of potatoes was much reduced.

In addition to the waste of potatoes and a consequent decrease in yield of flour, there is a second disadvantage to combining these two operations. The sludge from the peelers contains a considerable percentage of potato starch which may be advantageously recovered if the mixture is free from dirt. If the mixture contains sand and especially the finer earthy material, it will not be possible to recover a clean white starch. So the operations of washing and peeling should be performed separately. At least two friction paring machines are desirable. They may then be operated alternately, i. e., while one is operating the other machine is being emptied and refilled.

The potatoes are transferred from bins to the washing machine by an incline drag elevator. After washing, they are conveyed to the paring machines where they are pared for thirty to sixty seconds. From the paring machines, the potatoes drop onto the sorting belt, where rotten, diseased, or unclean material is eliminated. This is best accomplished after the washing and paring operations and just before the potatoes are carried to the storage bin above the cooker. For the purpose of sorting, a rubber belt conveyor 12" to 15" wide and at least 8'-0" long is advisable. If the potatoes used are in good condition, two operators on this type of sorting table will be sufficient. If potatoes are in very poor condition, sorting before they enter the washing machine is advisable. The sorting belt drops them into a drag elevator which carries the potatoes to the storage bin above the cooker.

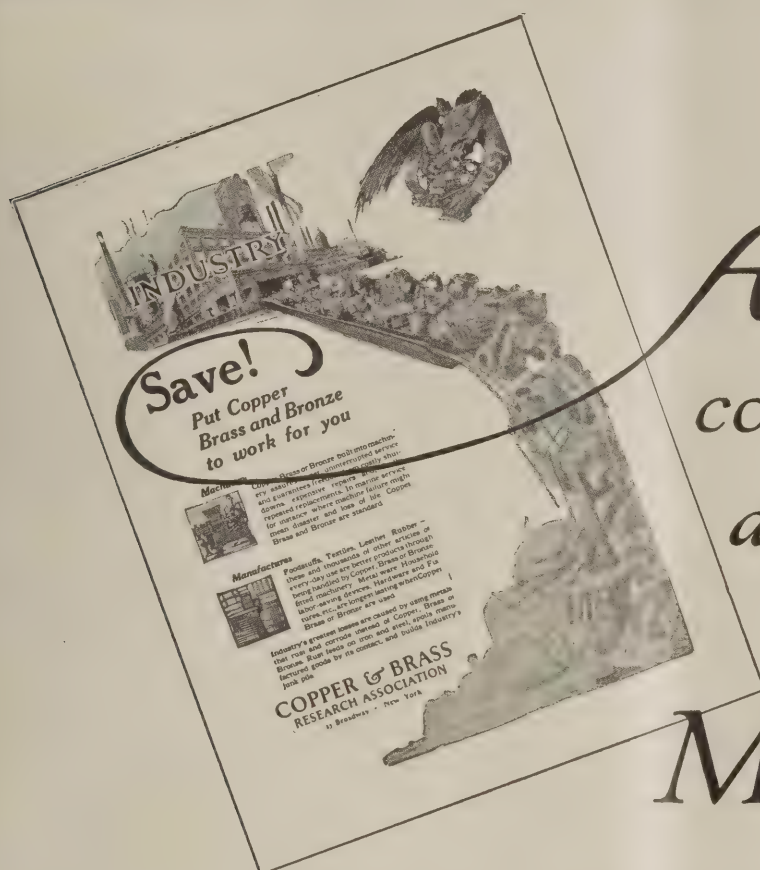
A steam pressure cooker is used for cooking the potatoes. The simplest

form consists of a cylindrical iron tank with the bottom sloping toward the center to insure drainage. This tank is fitted with a perforated false bottom and is further provided with two openings of about one square foot each—one on the top for introducing the potatoes, and one opening on the side near the bottom for removing potatoes after cooking. In this cooker, the doors over the two openings are closed tightly after filling with potatoes and steam is introduced from near the top and the pressure allowed to rise to 15 pounds. The steam passes through the potatoes and the water of condensation collects in the space under the false bottom. A small pipe connected with a steam trap takes care of the excess condensation. Fifteen to twenty minutes cooking under 15-pound pressure is generally sufficient. The potatoes should be cooked soft.



When cooking is complete, the steam is shut off, the lower valve and lower door opened, and the potatoes are allowed to roll out into a screw conveyor which carries them to the flaking machine, mashing them in the operation.

The potatoes, cooked and mashed, now fall onto the hot revolving drums of a flaking machine where they are dehydrated. The drying or flaking of the cooked potato is a very important step in making potato flour, and the flaking machine is the most costly piece of equipment required for the plant.



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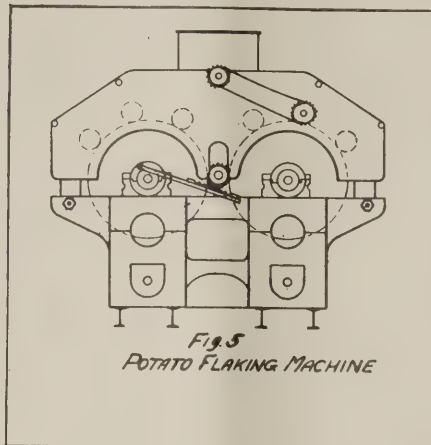
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The potato flaking machine was developed in Europe, but different types of this machine have been designed and built by American engineers. While machines of different makes will differ somewhat in design and construction, the principle involved is the same.

The flaking machine consists essen-



tially of a large, revolving steel cylinder or drum with a smooth outer surface. This cylinder or drum is heated by live steam at 80 pounds or more pressure. This means that the temperature of the smooth outer surface is 325° F. or more.

The cooked potatoes are mashed and brought into contact with the heated surface of the large drum. Smaller steel rollers spread the mashed potato into a very thin layer or film on the surface of the drum. The moisture in the potato evaporates rapidly and by the time the drum has completed about three-quarters of a revolution, the thin layer of potato is completely dry. This thin dry film of potato is removed by stripper blades set against the drum. This film comes off as "flakes."

A flaking machine should be properly installed. A firm base should be provided and all parts should be accessible for adjustment and repair. It is very important that the devices for adjusting the stripper blades be accessible.

A vapor hood and an outlet pipe are shown above the flaker on the elevation drawing. Some form of vapor hood provided with an exhaust fan is necessary for carrying away the steam resulting from the drying of the potatoes. As the dry flakes are stripped off the drum, they fall into a screw conveyor which carries them to a bucket elevator. The bucket elevator carries the potato flakes to the flake storage bin.

The storage bin for flakes is directly above the attrition mill. The flakes are fed into the mill and ground. Different types of mills have been used for grinding the flakes into flour, but the most satisfactory type used has been the attrition mill. These mills may be belt driven, but a direct motor drive

may also be used. The ground material passes downward into the boot of a bucket elevator which carries the ground flakes to the centrifugal reel for bolting. A centrifugal reel of the type ordinarily used in flour mills, with roxx bolting cloth, may be used. The "tailings" are reground. The coarse material or "tailings" which does not pass through the bolting cloth passes back to the storage bin for flakes and directly to the mill to be re-ground. The finely bolted flour is conveyed to the storage bin over the packer where it is packed into bags or barrels the same as are used for wheat flour. A paper lined bag or barrel is preferable. This completes the manufacture and the flour is ready for shipment or storage.

A cyclone dust collector should be installed on the top floor with aspiration on the head of the elevator which carries the flakes from the flaking machine to the attrition mill; also on the stock stream to the attrition mill, on the elevator which carries the ground flakes to the reel, and on the elevator to the bin over the packer.

A dusty mill is to be avoided. Escaping dust not only means a reduced output but its presence may cause a disastrous explosion and conflagration.

Experiments conducted by the Department of Agriculture have shown that plant dusts and other carbonaceous dusts are flammable and explosive. Potato flour dust is flammable and explosions of this dust have been produced in the grain dust explosion laboratory in the Bureau of Chemistry.

The danger due to liability of explosions should be avoided. Proper installation of the milling equipment together with the dust collecting system should provide a dust-free and explosion proof mill. The economy of such an installation is obvious and would tend to pay for itself in the flour saved, which would ordinarily, without such a system, be disseminated through the plant as dust and cleaned out by an occasional sweeping as dirt.

Although no distinct type of architecture is specifically required in the plans of a potato flour plant, the building shown in the attached drawings is perhaps the most suitable one that could be designed. It may not be desirable to put up a new building if an existing building suitable for conversion is available.

In the elevation and floor plan drawings the equipment necessary is shown installed to scale in a building 32' x 52'. The boiler room is an 8'-0" lean-to adjacent to the main building.

The layout of the plant shows the basement used as storage space for potatoes, the first floor divided into four main rooms: (1) office; (2) room

for washing, paring, and sorting; (3) room for flaking machine; (4) room for milling; the second floor with the cooker, bolter, packer, and storage space provided, and the top floor or attic with the cyclone dust collector in place.

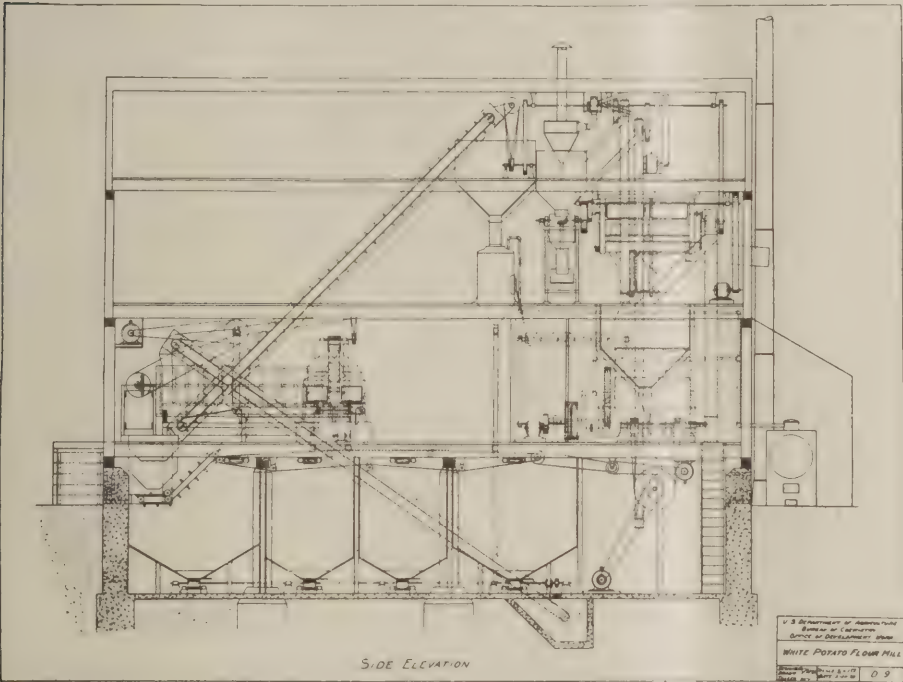
In order to prolong the operating season through the severe winter months experienced in the northern potato growing states without exposing the potatoes to the cold, freezing conditions attending transportation, it is necessary to have a large storage capacity available. In anticipation of this, the basement may be used for what might be termed a working storage, and the main supply of potatoes

A crank and shaft with chains attached to hopper boards serve to unload the bins. One turn withdraws the first board, two turns withdraw the second, three turns the third, and so on until the bin is empty.

Storage bins are required for (1) raw material, (2) washed, peeled potatoes, (3) flakes, and (4) bolted flour.

The storage bins for raw material will vary in type and size. They should be so constituted that they may be filled with potatoes and emptied by mechanical means.

A storage bin just above the cooker for holding a supply of washed, peeled potatoes is necessary. This bin should be hopped with the opening at the



stored in low storage bins or houses adjacent to or near the main building, transferring them by means of a belt conveyor operating through a tunnel underground.

If a building already erected were to be converted into a potato flour plant and the basement did not provide facilities for such an arrangement of bins, pulleys, belts, conveyors, etc., as is necessary, it is suggested that the top floor may be better suited for this purpose, although a greater danger of freezing the potatoes would ever be present.

A hopper scale with the beam in the office is shown in one corner of the building. From this hopper the potatoes drop onto a flat belt conveyor with board sides and are distributed by means of the belts running at right angles and parallel to the storage bins. The belts underneath the bins convey the potatoes to the boot of the drag elevator which feeds the washing machine.

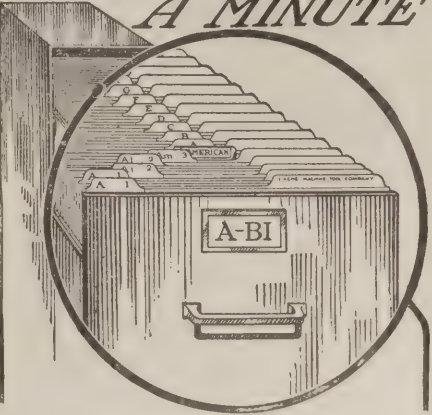
center of bottom. The hopper sides should have a slope of at least 45 degrees with the horizontal, while 60 degrees is preferable. This bin should have a capacity at least 4 or 5 times as great as the cooker, thus providing an accumulation of potatoes so that the washing and paring operation will not necessarily be continuous.

The storage bin for flakes should be situated just above the mill. This bin should be dust-tight and the interior should be smoothly finished with well-dressed lumber. The same provisions regarding shape and slope of the hopper sides mentioned previously apply, and the capacity should be ample.

A storage bin for bolted flour is provided similar to that for flakes, but not so large, and located over the packer.

The washing and the peeling operations both use water and are preferably separated from other operations

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Your Suggestions?



INNOVATION FILMS

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Advertising Dept.

Member of National Association of
Manufacturers

not using water by being put into a separate room.

A great deal of heat is radiated from the flaker and also a great amount of vapor is driven from the potatoes, and in order to prevent this heat and vapor from being dispersed throughout the building, the flaker is put into a separate room.

The attrition mill is liable to create much dust, so in order that the dust may be confined and collected, a separate room is provided.

The building should be supplied with good sewage and drainage facilities and so arranged that it may be kept in a sanitary condition at all times. Floors, if liable to be wet, as in the washing and peeling room, should be water-proofed and have bell traps and sewage connection.

The plant must be near a railroad and be provided with a siding for unloading potatoes and shipping out the finished product. A good wagon road is also necessary.

By making provision for expansion of this plant, an agricultural district, engaged in raising potatoes, of 100 miles radius can be taken care of.

The following equipment is used in manufacturing potato flour:

- 1 High pressure boiled 50 to 150 H. P.
- 1 potato washing machine.
- 2 or more friction paring machines.
- 1 steam pressure potato cooker.
- 1 sorting table.
- 1 potato flaking machine with vapor hood and suction fan.
- 1 attrition mill.
- 1 centrifugal flour reel.

Exact figures for yield of flour cannot be given since it will vary with the solid content of the potatoes used, the percentage of rotten potatoes thrown out, and the process of manufacture.

Assuming that potatoes used have an average solids content of about 22 per cent and that only sound stock is used, if the procedure of manufacture as just outlined is followed, a yield of 20 per cent may be expected. This means that 100 pounds of fresh potatoes will produce approximately 20 pounds of potato flour (containing 5 to 10 per cent of water, a ratio of 5:1).

Emphasis has been placed on the necessity for partially peeling the potatoes to obtain a high grade flour and the most economical methods have been advised. A yield of 20 per cent should therefore be considered as the maximum figure rather than the average, although with careful operation and potatoes of average solid content, this figure is readily attained.

Chemical analyses of the potatoes used and the resulting potato flour show that in the process of manufacture, no appreciable amount of valu-

able constituents is lost from the original composition of potatoes. Considering the nutritive value of potato flour and potatoes, we find the mineral constituents to be practically the same.

Atwater and Bryant in Bulletin 28, U. S. D. A., give the average composition of 136 samples of the edible portion of American grown potatoes as follows:

Water, 78.3 per cent; protein, 2.2 per cent; fat, 0.1 per cent; carbohydrate, 18.4 per cent; fiber, 0.4 per cent; ash, 1.0 per cent.

The cost of manufacture will naturally vary with labor conditions and price of fuel and power. With a production of 6,000 to 8,000 pounds of flour per day, the cost of manufacture exclusive of overhead expenses and depreciation charges will vary between \$80 and \$90 per ton of dry flour. At present prices for labor and fuel, the larger figure is probably more nearly correct.

About one-sixth of the cost will be for labor and the number of laborers here listed for one shift will indicate the possible labor expense.

One plant manager, 1 general utility mechanic, 1 fireman, 3 or more men for handling incoming raw material for packing and shipping out flour, 1 laborer for washing potatoes, 1 laborer for operating paring machines, 2 or

American manufacturers interested in reorganizing or reshaping an already established

DIRECT EXPORT BUSINESS

or in going after it on a sufficiently vast scale, or in a level-headed, ambitious — neither pessimistic nor unduly optimistic — manner, are invited to send their names, with indication of the official to be communicated with and also the nature of products (if not obvious), and by circular matter already prepared, they will at once receive preliminary information.

A. HOBOK

1485 Metropolitan Avenue
Brooklyn, N. Y.

more (male or female) laborers for picking belt, 1 laborer for cooking, 2 or more men for operating flaking machine, 1 man for operating mill.

The cost of production will equal the manufacturing cost plus the overhead.

In many industries the raw material cost is a small item; in some no item at all, but in the manufacture of potato flour it will more than likely equal the total of the other cost items entering into the cost of manufacture. If the plant is of a one-unit capacity, the manufacturing cost will of course be higher than if it were equipped with two flakers and the necessary cooking capacity. By thus increasing the output 100 per cent, the production cost would also be increased, but not in such a great proportion, so that the cost of production would be lowered with increased capacity.

Below is an itemized statement of the cost of operating a single unit plant for the manufacture of one carload (40,000 lbs.) of \$0.60 potatoes into flour in one day.


(Calculations based on prices prevailing in 1919):

Potatoes (at 60c. cwt).....	\$0.03000
Labor00700
Power (\$15.00 per day).....	.00187
Coal (\$15.00 per day).....	.00187
Machinery depreciation, (\$12,000 at 10%).....	.00075
Building depreciation, (\$15,000 at 3%).....	.00028
Packing (sacks \$0.30 each).....	.00300
<hr/>	
Factory cost	\$0.04477
Overhead00437
<hr/>	
Manufacturing cost.....	\$0.04914
Selling expense, 20% of mfg. cost00982
Total cost05897
Profit, 10%00589
Selling price per pound.....	.06487

NEW ENAMELING MILLS

The National Enameling & Stamping Company, of New York, has appropriated \$1,500,000 for the building of six additional sheet mills. At present the company has thirty mills—twenty tin mills and ten sheet mills at Granite City, where the six new mills are to be constructed in addition to a large jobbing mill, electrically driven, which will enable the company to take care of the demand for plates in the oil field, which it has not been able heretofore to do.

The installation of the six new mills will give the company a rolling capacity of 50,000 tons per month, as against a present capacity of 35,000 tons, and will make it one of the largest independent sheet producers.



Pathéscope

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The illustrations above are extracts from a 3,000-foot industrial film made for the Plymouth Cordage Company by The Pathéscope Company of New England, under the personal direction of Mr. E. P. Cornell. "The Making of Rope" is more than merely a splendid educational feature—it is a powerful sales force in which the arguments of quality and quantity production are presented vividly and convincingly.

This is a busy age and pictures can tell a story more quickly, more accurately, and more vividly than hours of talking. The Japanese have an appropriate proverb, "One look is better than a thousand words."

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Our Industrial Department is equipped to render an important and complete service to advertisers. It made the most successful industrial motion pictures produced during 1921. The Pathéscope Film Service is one of undivided responsibility. We write the scenario, take the picture, make the prints, arrange distribution, and supply New Premier Pathéscope portable projectors.

The New Premier Pathéscope can be used by any of your men, anywhere, any time. It is *so exquisitely built* that its large, brilliant, flickerless pictures amaze expert critics. Uses only "Safety Standard" film. *It is safe.* The Underwriters' Laboratories, Inc., have set their Approval Seal on every "Safety Standard" film and Pathéscope projector. No fireproof booth or licensed operator is required.

The use *without a fireproof booth* of any projector *capable of using* ordinary inflammable film, no matter by whom approved, violates State, Municipal and Insurance restrictions.

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- Baldwin Locomotive Works
- Boston Woven Hose & Rubber Co.
- Colgate & Company
- Economist Film Service
- General Electric Company
- International Correspondence Schools
- International Mercantile Marine
- Kirkman & Sons
- Lock Joint Pipe Company
- Mosler Safe Company
- National Biscuit Company
- National Cash Register Company
- Otis Elevator Company
- Plymouth Cordage Company
- Rinek Cordage Company
- Robins Conveying Belt Company
- Charles A. Schieren Company
- E. A. Stevenson & Company (Spredit)
- Tide Water Oil Company
- United Drug Company
- Wall Rope Works
- and many others.

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*Manager of the Foreign Trade Department of the
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Business
Opportunities
in
Other
Countries

Economic Situation In Portugal

Unemployment is very low although wages are low and prices are rising—Exports are increasing but imports have diminished in the last few months except in the case of indispensable articles

CABLE advices to the Department of Commerce from C. H. Cunningham, United States Commercial Attaché in Madrid, give a full summary of the economic situation in Portugal. Mr. Cunningham reports that although there is little unemployment in Portugal, wages are low and prices rising. Exports are increasing, but imports have greatly diminished in the past few months. The value of the escudo is still declining because of the continued large deficits in the Government administration and the currency inflation. The gold reserve now amounts to about one per cent of the notes in circulation. A tax-reform law has finally been passed, which is expected to yield 180,000,000 escudos. It is hoped that deficits foreseen in the new budget will be offset by the increased revenue in taxes.

The exchange situation in Portugal grows continually worse. During the past month (between August 21 and September 20) the exchange value of the escudo has dropped from 6.77 cents to 4.78 cents, and there is no prospect of immediate improvement. The general lack of confidence in the financial stability of the Portuguese Government, manifested in the falling exchange, is accounted for by the continued deficit in the Government administration and the great increase in the issue of paper currency. The deficit for the present fiscal year is estimated at 400,000,000 escudos. The new budget proposes expenditures of approximately 575,000,000 escudos, of

which more than 300,000,000 escudos is due to losses through exchange depreciation and increases in escudo expenditure to meet this depreciation.

The estimated deficit for the operation of the Government railways is 12,000,000 escudos; for post and telegraph, 11,000,000 escudos; for Government operation of steamships, 40,000,000 escudos; for regulating the price of bread 80,000,000 escudos.

The Government proposes to place the salaries of its employes on a gold basis. This involves an increase in the budgetary provision for such salaries from 20,000,000 to 262,000,000 escudos. Since 1913 the number of civil functionaries has been increased from 6,500 to 18,000. Heavy increases in the army and police force have been provided for in the new military budget, and an increase of 120,000,000 escudos has been apportioned to cover this increase. These increases in the budget are offset by the new taxation law which finally was passed on September 15. It is estimated that the operation of this law will yield 180,000,000 escudos of additional revenue. The leading features of the new tax law are (1) the tax on business turnover, averaging 1 to 10 per cent; (2) the industrial tax fixed on the capital of stock companies, or the value of real estate held; (3) the tripling of the rural property tax over its 1914 figure; and (4) a tax on capital and investment, which, in the case of foreign capital, will amount to 2 per cent. The tax on capital and investment is subject to a municipal surcharge of 10 per cent and to other surcharges total-

ing 5 per cent. The law further provides for the abolition of former water consumption, mining, servant, and sumptuary taxes.

The total Portuguese note circulation on September 15 amounted to 840,000,000 escudos, showing an increase over the preceding week of 11,580,000 escudos and an increase since the close of 1921 of 127,500,000 escudos. The reserve against these notes amounts to 8,750,000 gold escudos.

Great dependence is placed by Portugal on the credit of 3,500,000 pounds sterling extended by London through the medium of the Banco Nacional Ultramarino for the purchase of British coal and machinery for the State railway and navigation lines and other Government projects, and for the financing of private importation of British goods. The loan is now being used for the following projects: (1) For railway repair shops (to the amount of 100,000 pounds); (2) for purchases of locomotives, rails, and tramway equipment; (3) for harbor improvements near Oporto; and (4) for hydro-electric developments. The conservative Banco Nacional Ultramarino, by refusing to make wholesale recommendations of firms desiring to take advantage of the facilities offered by the loan, is retarding to some extent the utilization of the credit.

Common labor in Portugal is receiving 3 to 5 escudos per day; skilled labor 6 to 9 escudos; and Government labor as high as 15 escudos. The industrial situation in Portugal, however, shows a marked improvement over a year ago.

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We offer careful attention to correspondence in English, preferring to receive it in Spanish.

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With a view to assisting citizens of Canada, and the United States to communicate with their families and friends and to enable them to bring their relatives to Canada and the United States, the Canadian Pacific Railway has established its office in Moscow, Russia, where steamship tickets and cash advances through Dominion Express Company up to \$40 can be forwarded. This is the first office of any line to open in Russia.

It is necessary for the applicants to obtain their foreign passports and visas by applying personally to local branches of the Commissariat for Foreign Affairs and Political Police. However, it is expected that with the establishment of the Canadian Pacific Moscow office it will be possible to obtain visas for Poland and Latvia without having to make personal application at Moscow, and the British Consul-General has agreed to vise Russian foreign passports of the wives and children of naturalized Canadians holding letters from the Department of Immigration, Ottawa, authorizing admission to Canada.

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FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

ENGLAND

Bolts and nuts, chiefly Cup Sq Sq Bolts and Nuts, sizes from 1" x 1/4" up to 3" x 1 7/8", are of interest to a firm of engineers' furnishers in Great Britain. (550)

FRANCE

Belt business for France. The inquirers desire quotations and general data. (551)

Refined sugar, paraffine wax and chemicals. The inquirer desires to secure American agency connections in the above. (552)

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GERMANY

Saws, files, pliers, chisels, planes and tools of every description are of interest to a manufacturers' agent and merchant in Germany. (553)

Grain and feed of all kinds, groceries, flour, dried and evaporated fruits and food products generally. The inquirer desires American agency connections for Germany. Correspondence in German. (554)

PORTUGAL

Foodstuffs, cereals, sugar, refined and unrefined, flour of all kinds, cotton in bales, printing paper, mechanical novelties for industrial purposes and similar goods. A firm of manufacturers agents and importers desires American agency connections in the above. Correspondence in Portuguese. (555)

SWEDEN

Textiles of all kinds, notions, cotton, silk and woolen hosiery. A firm of manufacturers' agents in Sweden desires representations. (556)

SWITZERLAND

Foundry machinery and foundry tools of all kinds are of interest to a firm of founders in Switzerland. Correspondence in French. (557)

SOUTH AFRICA

Novelties, patented devices and new inventions of all kinds, principally in the engineering line, are of interest to a firm of representatives in South Africa, who claim to be particularly well-placed for introducing such articles. Are in the market for novelties and inventions in any line, not only engineering. (558)

EGYPT

Artificial silk in thread of 1000 "deniers," 6-strand for machine knitting, is of interest to a manufacturer of knit goods in Egypt. Correspondence in French. (559)

CONSTANTINOPLE

Durum flour, first and second clears. The inquirers would like to enter into business relations with a large supplier who could sell c. i. f. Constantinople, including marine insurance, war risk, etc., per hundred kilos packed in jute bags of 140 lbs. gross. (560)

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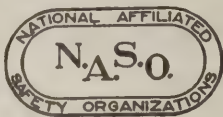
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Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

Arc Welders' Helmets—To shield eyes against intense rays of the electric light.

Leggings—To protect foundry-men's legs against molten metal.

Shoes—To protect workmen's feet against molten metal.

Respirators—To prevent inhalation of harmful dust or fumes.

Knuckle Guards—To protect hands when wheeling barrows or trucks through doorways or narrow passages.

Ladder Feet—To prevent ladders from slipping.

Chip Guards—To protect eyes from injury by chips thrown from lathe tools.

Metal Danger Signs—Portable, for use in shop, yard or street.

Linen Danger Signs—Various warnings of danger, for attaching to sign boards or partitions.

Rules for Cranemen—For guidance of crane operators and others.

First Aid Jars—Emergency outfit especially developed for industrial use.

Stretchers—Sanitary metal stretchers, which can also be used as cots.

Shaft Protector—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

CHINA

Aniline dyes, dry colors, shellac, orange and white, gum of all kinds and glass varnish are of interest to a merchant in China. (561)

Screws of all kinds, including wood screws and small screws for the manufacture of watches, cameras, guns, small machinery, etc.; small tools of all kinds, picture frame mouldings, backings, wire and hardware, polishes, glues and glass for picture framing, also mirror and beveled glass, also sheet metal for fine work, celluloids, card mats, albums, large cardboards and roll materials for picture framing. A firm of importers in China desires to hear from American manufacturers. (562)

JAPAN

Hardware and tools of all kinds, bicycles, paints, varnishes, oils, rope and twine, machinery of all kinds, factory supplies, pipes and fittings, wire rope, electrical machinery and supplies, including railway equipment, medical apparatus, instruments, etc., agricultural machinery and supplies, builders' materials, house furnishing goods, sporting goods, optical goods, silverware, trunks and travelers' goods, printing paper and printers' supplies, photographic apparatus, drugs and chemicals. A firm of general importers in Japan desires quotations and catalogs. (563)

TRINIDAD, B. W. I.

Boots and shoes for Trinidad. The inquirer desires to represent a manufacturer of the above. (564)

HAITI

Cigarette paper, cigarette pouches in paper and cardboard; cigarette machinery and machines for fine cutting tobacco to make cigarettes; also blue paper for making Scaferlati tobacco, are of interest to a tobacco manufacturer in Haiti. (565)

PORTO RICO

Cast iron pipe and fittings for construction purposes, Manila and Sisaled rope, corrugated and galvanized sheet No. 24 in standard lengths, standard railroad spikes, building materials of all kinds in the steel line; concrete reinforcing materials, angles and round steel bars, bolts of all kinds, pressure filters and stone water filters, paint brushes, tubular wheelbarrows, galvanized wire cloth, sanitary equipments of all kinds, ferules, abrasive and reflectory materials, wire rope, builders' hardware, principally locks, etc., roofing paper, galvanized wire and pipe in all sizes, wire

nails, barbed wire and galvanized pails for handling concrete. A firm of manufacturers' agents desires to carry a full line of representations in the building materials supply line for Porto Rico. (566)

Paper and paper goods of all kinds, oilcloth, artificial leather, building materials, nails, galvanized iron, flat and corrugated galvanized sheets, concrete reinforcing materials, enamelware. A firm of merchants in Porto Rico desires to hear from American manufacturers. (567)

White and colored cotton piece goods, silk fabrics, cotton underwear, men's shirts, hosiery of all kinds. The inquirers desire quotations on the above, stating that they prefer lots of second quality goods in hosiery and underwear. They will also handle representations for Porto Rico. (568)

CUBA

Silver plated articles for ornaments and novelties, low-priced, cheap paste dolls for children, kewpies, silver plated and cheap glass flower vases, low-priced velocipedes. A firm of importers in Havana desire to hear from American manufacturers. Correspondence in Spanish. (569)

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Provisions and food products of all kinds, also hardware, stationery and general lines. The inquirers offer their services as American manufacturers' agents. Correspondence in Spanish. (570)

Provisions of all kinds including hams, bacon, beef, pork, lard, canned fruits, rice, corn and wheat flour, hay, sausages, butter and cheese, potatoes; builders' hardware, nails, iron and steel bars and sheets and plaster of Paris. A firm of manufacturers' agents in Cuba desire to add the above to the lines they now carry. (571)

MEXICO

Bath room fixtures, shower baths, enameled iron ware for sanitary purposes, etc., plumbers' goods, water closet tanks in wood and metal, water closet seats of all kinds, steel pipe connections, plumbers' oakum, automobile accessories. A firm already representing a number of American concerns desires to add the above to the lines they are carrying. (572)

Confectioners' machinery and supplies of all kinds are of interest to an inquirer in Mexico. (573)

Electric baking ovens; also spraying machinery, motor drawn, for horticultural purposes is of interest to a firm of merchants in Mexico. (574)

PANAMA

Enameled iron and aluminum kitchen utensils, household hardware and household and kitchen goods generally; cutlery of all kinds for household and butchers' use; electrical household supplies; perfumery, toilet articles, men's, women's and children's wearing apparel, stationery and office supplies, glassware, pottery, paints and varnishes, fire arms and ammunition. A firm of merchants desires to secure American agency connections in the above for Panama. Correspondence in Spanish. (575)

COLOMBIA

Dental supplies of all kinds for Colombia. The inquirer desires to secure an American agency connection of the above. Correspondence in Spanish. (576)

White, fine and ordinary colored paper, cards of all kinds, printers' supplies, fine paper boxes and everything connected with the line of stationery and printing is of interest to a merchant in Colombia. (577)

ARGENTINA

Machinery for making concrete sewer pipes and excavating apparatus for laying same are of interest to a gentleman in Buenos Aires, who intends to bid on the construction and supplies of a sewerage system for an Argentine city. (578)

BRAZIL

Hardware, oil and petroleum products, and a general line of iron and steel goods are of interest to a firm of manufacturers' agents in Brazil. (579)

PERU

Dry goods and textiles of all kinds for Peru are of interest to a firm of manufacturers' agents. (580)

VENEZUELA

Cotton and silk piece goods, cotton and silk hosiery and blankets for Venezuela. The inquirers desire to secure American Agency connections in the above. (581)

INDIA

Automobile supplies, etc. Inquirers claim to have been established since 1894. If interested, kindly communicate with them direct. (582)

ENGLAND

A full equipment of sanitary fixtures, kitchen equipment, etc., suitable for a large University, is of interest to a firm of merchants in London. (583)

FRANCE

Canoes for France. A firm of dealers in pleasure boats desires to hear from reliable makers of canoes. (584)

Toys, novelties, notions, cutlery, leather goods; particularly watches and alarm clocks, large and small hardware for France. A firm of importers desires to hear from manufacturers with prices c. i. f. Marseilles, cash against documents. Correspondence in French. (585)

SPAIN

Creosote for creosoting railway ties. The inquirer is interested in securing quotations, samples, etc., on 2,000 metric tons, with full data regarding form of payment. Correspondence in Spanish. (586)

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Italy's Farm Machine Industry

REPORTING to the Department of Commerce, A. A. Osborne, Trade Commissioner of Rome, say the outstanding characteristics of the farm-machinery industry in Italy are its one-sided development and its limited variety of output. Competent authorities state that no reapers, sowers, or heavy machines in general are made in Italy, with the exception of threshers. The latters are constructed by a number of manufacturers, the most prominent of which are the Breda Co., of Milan (capitalized at 100,000,000 lire), which among other products, manufactures steam locomotives and is at present working on an order of 23 electric locomotives for the State Railways; the firm of Francesco Casali e Figli, of Suzzara (Province of Mantua), which announces a capacity of 10,000 machines yearly, its products including threshers, corn shellers, hay presses, etc.; and Cav. Pietro Bubba e C., of Sant' Imento (Province of Piacenza) (capitalized at 500,000 lire), which turns out a varied line of threshers and, in general, the same type as are manufactured by the Casali firm.

An Italian representative of an American manufacturer states that Italian threshers operate efficiently enough, although perhaps they may be criticized on the ground that they usually require more men to tend them than do American threshers. This, however, is not a serious drawback in a country where agricultural labor is fairly abundant and relatively cheap.

The lighter farming appliances, such as plows, harrows, and cultivators, are extensively manufactured. One company particularly, the Fabbrica Italiana Machine Agricole, of Alessandria, with a capital of 1,200,000 lire, has a large output of the articles named above and also of wine presses and other equipment for vineyards. This company, however, does not attempt to make the heavier, more complicated machines.

The readiest explanation for the restricted extent of the industry in Italy can be found in the keen competition of imported machinery. The unfavorable levels of dollar-lira exchange that have prevailed for several years, as well as the high duties on agricultural machines imposed by the tariff of July, 1921, have reduced imports from the United States to comparatively small figures during the past year; but, under more favorable conditions, American machinery can readily occupy its former place in the Italian market.

German exporters of farm machinery to Italy are, of course, aided tremendously by the heavy depreciation of the mark in terms of the lira. The

duties made effective by the tariff of July, 1921, do not seem to have cut down imports from Germany, which sends to Italy large numbers of mowers, thrashers (despite the large number manufactured by the Italians themselves), and plows.

During the war the withdrawal of many agricultural laborers for military service and the urgent need for the largest possible production of staple grains powerfully stimulated the Italian industry. Many machine shops and even foundries took up the production of agricultural machinery. This war-time activity of the industry was short lived, however.

A number of automobile manufacturers and general mechanical companies, including Fiat, Ansaldo, and Romeo, went into the production of tractors toward the latter part of the war, but the Fiat is practically the only company that remains in this branch of production. Development of the tractor industry has been hindered by the fact that the Government was left with a large stock of tractors on its hands at the close of the war, the subsequent disposal of this surplus having interfered with the market for the machines since made or imported. Furthermore, enough foreign tractors have come in to meet a large part of the demand and to narrow the market for the Italian machine, which is not very extensive in any case.

The sale of imported tractors in Italy is seriously affected by the provisions of the tariff on motor vehicles imposed September 16, 1920, and continued in force by the new general tariff of July 1, 1921. In addition to a graduated specific duty on the weight of the individual self-propelled machine, an *ad valorem* super-duty of 35 per cent is levied. It is definitely stated that the additional 35 per cent applies to automobiles, while the specific duties are assigned to all classes of automotive vehicles, but the Customs Administration has extended it to apply to tractors also, so that their importation has become practically a commercial impossibility.

Italy's exports of agricultural machinery have always been small, in fact, so small that official statistics do not name individual countries of destination. The total exports for the nine months July, 1921, to March, 1922, were as follows: Plows, 68 metric tons, valued at 458,700 lire; harrows and cultivators, 7 tons, value 62,200 lire; thrashers, 26 tons, value 168,180 lire; and all other, 221 tons, value 1,513,822 lire; a total of 322 metric tons valued at 2,202,902 lire.

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Symposium Contributed to By Leaders in Industry, Trade,
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Great Ports Of The Nation—Boston

By The HON. JAMES M. CURLEY
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No. 5

Do We Need A Ship Subsidy—Why? (A Symposium)

Leaders in industry, trade, commerce, finance and general business in all sections of the country, discuss in all its phases the Subsidy Bill now being so determinedly argued before Congress

AMERICAN INDUSTRIES in this issue presents a widely-gathered symposium of industrial and business opinion on the most vital question before Congress to-day—the Ship Subsidy Bill.

The symposium was arranged with the purpose of presenting free and full discussion on this important measure, now being so bitterly and determinedly fought out in Washington. Letters were sent to representative lists of the recognized leaders in industry, commerce, trade, transportation, finance and general business throughout the country asking the one question:

“Do We Need a Ship Subsidy—and Why?”

Free comment was requested and desired, and it was made clear that all viewpoints, comments or criticisms sent in would be used in full, whether they were for or against the subsidy. Responses were received from all parts of the country, from Maine to Florida, and from the Atlantic to the Pacific. Every reply received is published here in full and without change.

Compositely the symposium indicates that the great body of industrial, commercial and business men believe that some form of subsidy, either broad or rigidly restricted, must be granted to encourage privately-owned shipping, if the United States is ever again to hold her place in the sun of commercial expansion. This thought predominates, although there is disapproval generally of the basic idea of government subsidies, and there is of course wide divergence as to the precise form such government aid should assume.

The arguments for the subsidy in the main are that it is essential to the rehabilitation of the American Merchant Marine, on which the revival of our foreign trade depends and on which in turn our national prosperity so largely rests. Some view it as having potentialities for good aside from this. These, who are most emphatic in their belief, submit that any subsidy granted should be well earned on a showing of service performed, such as maintaining regular sailings over prescribed routes; mail service; transportation of troops and supplies to our island possessions;

maintaining ships of standard size and equipment as naval auxiliaries, and so on.

Many argue that a ship subsidy has been necessitated by the LaFollette law which made the cost of running American ships so great they were put at a disadvantage in competition with more cheaply operated transportation of other nations.

Several of the writers consider the relation of the tariff to the subsidy but from different viewpoints and with varying conclusions. Thus one asserts that “a policy of restricting commerce through prohibitive tariffs on the one hand, and of subsidizing shipping on the other, has always been and will always be irreconcilable” and that “we must build up our shipping as an adjunct of our trade, but it would be absurd to attempt to build up our shipping at the time we are killing our trade.” On the other hand one writer justifies a subsidy as a protective measure analogous to the import duties imposed on foreign products as a protection to American goods.

The opposition expressed to a subsidy both in general and in particular comes from the agricultural interests, the chief spokesman for which in the symposium declares that the opposition of the farmers is based on the belief “that until all business may be conducted with more or less certainty of success, it is not wise to guarantee the success of any line, since it brings an unfair burden upon those who must operate under existing conditions.” Conversely, another farmer editor, while declaring at the outset that he favors a ship subsidy, opposes the one proposed for the reason that it would sell our national merchant marine in a “bear market.” Only a few flatly oppose any subsidy at all.

Some of the outstanding points made by those in favor are:

1. The United States cannot hold its own in the markets of the world and rely on the delivery of our products in ships of foreign registry operating under laws and conditions with which we cannot compete. If we are to build up and maintain a real export trade, our goods must go forward in American ships manned by

American seamen. If this cannot be accomplished without a subsidy, then some sound and reasonable subsidy must be granted.

2. We must decide whether the war-built ships shall be gradually sold and probably put into alien hands or whether they shall be utilized under private American ownership and operation for our own good.

3. Opponents of any ship subsidy prefer to let foreign ships carry our commerce rather than pay out the necessary money to make possible competition on an even basis.

4. From the first Federal Congress it has been the declared purpose of the United States to aid industry and labor, but for the past sixty years ocean shipping has been left out of that policy.

5. The United States is not only justified but would be sacrificing the interests of our merchants and manufacturers if we did not promptly take adequate steps to secure our fair share of the carrying trade of the world.

6. No great country with far-flung seacoasts such as ours can prosper in peace or be secure and well cared for in war without an adequate merchant marine.

7. Restrictive labor laws must be repealed; without their repeal no intelligent shipping company will take over government ships at any price commensurate with this present cost in the expectation of making them profitable or of maintaining an efficient and loyal organization.

8. What subsidies have already done for the British and even for our own country in our early maritime history, they will do again.

9. The subsidy should be given for services performed, such as maintaining regular sailings over prescribed routes; mail service; transportation of troops and supplies to our island possessions; maintaining ships of standard size and equipment as naval auxiliaries.

10. Ships engaged in foreign trade should be free from local taxation.

Some of the outstanding points of those opposed are:

1. That it favors special classes, imposing on all the burdens of maintaining a single industry.

2. That until all business may be conducted with more or less certainty of success, it is not wise to guarantee the success of any line, since it brings an unfair burden upon those who must operate under existing conditions.

Under the urge of President Harding, always a firm believer in Government aid as a means of building up the American Merchant Marine, the subsidy bill is now getting full consideration. In calling the extra session of Congress, President Harding summed up the shipping situation when he said three courses of action were possible and that a choice of one of them was no longer to be avoided. He recommended making the first of the following three choices:

First, a constructive one—"Enact the pending bill under which I firmly believe an American Merchant Marine, privately-owned and privately-operated but serving all the people and always available to the government in an emergency, may be established and maintained."

Second, and obstructive one—"Continue government operations and attending government losses, and discourage private enterprise by government competition, under which losses are met by the public treasury, and witness the continued losses and deterioration until the colossal failure ends in sheer exhaustion."

Third, a destructive one—"Involving the sacrifice of our ships abroad or the scrapping of them at home, the surrender of our aspirations, and the confession of our impo-

tence to the world in general and our humiliation before the competing world in particular."

Seldom has a bill been introduced in Congress with such assurance of a bitter battle. As AMERICAN INDUSTRIES goes to press the indications are that the measure will be passed by the House of Representatives. The bill will then go to the Senate. It is generally conceded that there will be a long and determined fight over it in the Upper House. Strong support and strong opposition have already developed, although at the present time the ranks are not completely defined except on party lines. The proponents of the measure are determined to press for speedy action; the opponents will make a vigorous effort to delay or prolong the discussion for many weeks and if possible to block a vote until the new session when the complexion of Congress will be somewhat changed. Whether they will be able to accomplish this is problematical.

For many years there has been a wide and growing demand for government aid for American shipping, whether that aid be known by the terse and obnoxious title of subsidy which the layman has always considered synonymous with gratuity for favored groups; or whether it be known by some milder word. Every other great commercial nation has built up its shipping with subsidies, direct or indirect. The strongest support of a ship subsidy quite naturally has come from the industrial, commercial and shipping groups, because they have had the products that must find their surplus outlet in foreign countries; they are the ones who have suffered most through unequal competition with the steamships of other nations by delayed cargoes and discriminations that are bound to be imposed, intentionally or unintentionally, when a producer is compelled to ship in vessels of another country. The strongest

opposition has come for the most part from the agricultural and inland districts whose interest has been more or less centered in local markets. But in recent years there has appeared occasional evidence of a realization by the farmers, accentuated by the war, that the carrying of their surpluses to the foreign market builds their own prosperity and that the steamship lines are only extensions of our transportation, that they are the railroads across the sea.

The present bill has been endorsed by influential business organizations in every section of the country. Manufacturers associations, chambers of commerce, boards of trade, shipping associations, bankers associations, millers' federations, farmers' federations, associations of commerce, cotton exchanges, maritime exchanges, merchants exchanges, waterways associations, boards of trade and transportation and veterans of Foreign Wars and posts of the American Legion, have declared for some form of subsidy to aid our shipping.

One of the first and foremost organizations to advocate aid for American ships is the National Association of Manufacturers, which voiced the need for such support at its organization meeting in 1895. Since then it has constantly and consistently sponsored all broad efforts to extend shipping and provide laws that will enable our vessels to return to the enviable position they held in the clipper days. Two years ago the Association submitted to both the Republican and Democratic conventions a merchant marine plank, the idea being incorporated in both platforms. At its last convention, in May of this year, the Association supplemented previous resolutions with a more specific one, providing that the government should be reimbursed for the subsidy after companies have made a certain fair percentage of profit and this provision has been introduced recently into the present bill.

The varied expressions on the subsidy appear in the following pages.

Must Protect For Successful Operation

Written especially for AMERICAN INDUSTRIES

By **FREDERICK J. KOSTER**

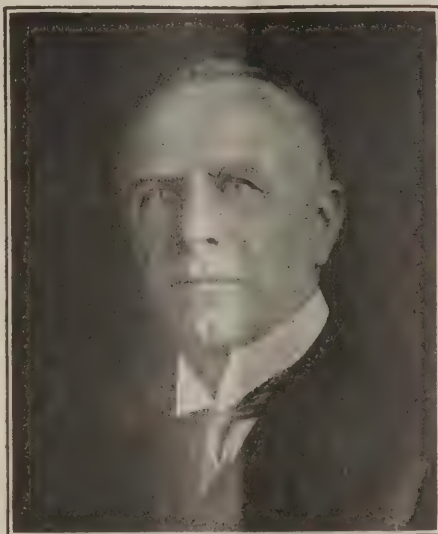
Chairman, California Barrel Co.

OWING to the vast increase in our manufactures during the war it is imperative we seek markets for our surplus in foreign markets and in order to stabilize exchange we must buy as well as sell in order to create credits which will enable foreign merchants to pay for our goods.

One of the greatest essentials in building up a foreign commerce is a merchant marine not controlled or subsidized by foreigners with whom we are competing, in other words, an "American" merchant marine operating American ships under American laws and manned by American citizens.

In many ways foreign ships can be operated much more economically than American ships primarily because wages and living conditions of foreign ships officers and crews are very much lower. It is generally accepted as an axiom that where the overhead of an American manufacturer is higher than his foreign competitor, the former must either sell his goods at less or must sell better goods to offset the difference or else go out of the foreign trade business.

Steamship lines should not be considered as a separate item in selling American goods abroad; they are merely a line in a chain that starts at the factory and ends in the warehouse of the buyer. If they are operated separately it is merely from sound economic reasons and in no way alters their relation to seller and buyer. It is the delivered price that controls the sale and low stable rates and frequent and regular service that help a manu-



Frederick J. Koster

facturer in competing with foreign rivals.

Therefore, if our goods are to reach foreign markets our ocean lines must be protected to an extent that will enable them to be successfully operated, otherwise they will cease to function and we will be at the mercy of foreign steamship lines which, as soon as they have the field to themselves, will promptly increase rates.

To enable American ships to compete they must either reduce wages and living conditions to a par with our principal competitors or raise their rates. This is not only impracticable but undesirable. No American wishes to see the wages and surroundings of our citizens lowered to those of foreigners and to increase freight and passenger rates would merely be to throw the business to foreign lines.

In an effort to overcome these difficulties the so-called "Ship Subsidy Bill" has been introduced which provides for a small allowance per mile based on speed in return for carrying free all mail except parcel post, also certain exemptions from taxation.

While the provisions of this bill will not overcome the differential in favor of foreign ships, it will materially reduce the difference in cost, and being distributed over the entire country, will place no burden upon any class or community and by retaining American ships on the various trade routes will insure American manufacturers stable and equitable rates to an extent that will far overshadow the amount involved. It will encourage an American industry that flourished but a few short years ago, will encourage shipbuilding with its resultant increase in all the industries that go to make up the construction and operation of steam vessels, but above all, it will tend to keep the American flag flying upon the seven seas in a manner that the position occupied by the United States in the world to-day entitles it to hold.

It can be summed up in the following: trade with the outside world is essential to our very existence. We could not, if we would, escape trading with the world at large. The greatest sufferers from shrinkage of foreign trade are, in the ultimate, our farmers, but we all suffer measurably. We cannot escape the necessity of developing a merchant marine. We must either refrain from imposing any burden upon our American ships, or we must offset them by compensating advantages.

We are not prepared to do the former, and the ship subsidy bill is designed therefore to do the latter.

Would Help Shipping and Allied Industries

Written especially for AMERICAN INDUSTRIES

By **ANDREW FLETCHER**

President, American Locomotive Company

IN my opinion our shipping must be subsidized and the laws governing the operation of our shipping materially modified, if the merchant marine of this country is to be extended or even preserved.

It is most unfortunate that the representatives at Washington of the inland states and even representatives of our coast states disapproved in the past of a subsidy for our shipping, and yet

they give their approval to a protective tariff on many articles, some of which unquestionably on a final analysis have received more protection than they merit.

Our shipping and industries allied with shipbuilding are entitled to as much consideration and protection as any other industries of the United States, and personally I believe worthy of more than ordinary protection because of the competition of foreign owned and operated shipping, and because of the far-reaching effect on the

general business of this country.

If one would take the shipbuilding industry as a purchaser of materials, its prosperity would surely give work to many industries of the United States.

A ship subsidy would help shipbuilding and all its allied industries and give employment to thousands of men. When we consider the very large investment that the United States Shipping Board has in ships, most of them tied up, millions of dollars invested, and now a liability instead of an asset

considered as on an income basis as to taxes, and as a whole the present unsatisfactory business condition of privately owned shipping, certainly good common business sense should prevail and shipping receive proper consideration and assistance from this Government and by doing so improve the general business of this country.

No country can retain and extend its general business without having suitable transportation facilities and a progressive development of them by water, rail and good roads, for they are vital necessities and our United States, blessed with most extraordinary natural resources, should take every fair business means of protect-

ing and developing its merchant marine to carry the products of this country in our own shipping to the ports of the world. Our protective tariff schedule can be modified, and a provision could be made for a modification of the subsidy on shipping if the subsidy as passed proved excessive as our merchant marine developed.

Should Free Ships From Local Taxation

Written especially for AMERICAN INDUSTRIES

By CAPTAIN WILLIAM P. WHITE

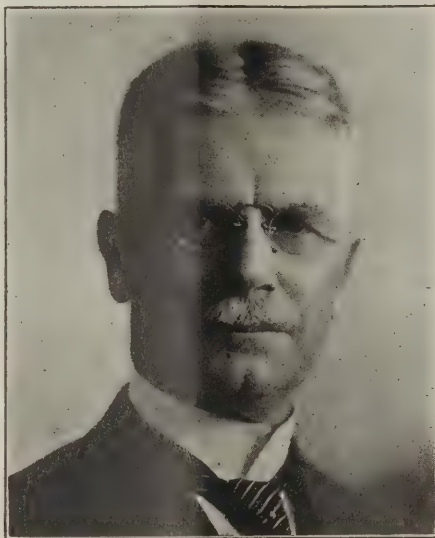
U. S. N. Retired

Treasurer and General Manager, Lowell Paper Tube Corporation

WE have the ships and the facilities for maintaining an adequate merchant marine. What stands in the way of its employment and continued development?

1. Taxation. Ships engaged in foreign trade should be free from all local taxation. The imposition of excessive tax burden by localities at which ships are registered has been one of the causes for the destruction of our merchant marine. Ships should be registered at ports of entry where the head offices of the corporation are located or otherwise as may suit the business convenience of the corporation. The corporate income should be subject to taxation only by the general government and only upon distributed income on the capital invested. The surplus accumulation due to successful management should be considered as reserve and if ever capitalized, this distribution of stock, representing the reserve, should not be considered as additional capital invested unless taxed as distributed income. As shipping is at present a speculative investment, 6 per cent should be allowed on capital invested before a tax should apply.

2. Restrictive labor laws; without



Capt. William P. White

their repeal, no intelligent shipping company will take over government ships at any price commensurate with their present cost with the expectation of making them profitable or of maintaining an efficient and loyal organization.

3. The lack of adequate mercantile organizations in foreign parts to accept cargoes and develop reciprocal trade.

4. Inadequate compensation to develop and maintain mail service.

5. Subsidy. None should be given except for service performed such as: (1) maintaining regular sailings over prescribed routes, (2) mail service, (3) transportation of troops and supplies to our island possessions, (4) and maintaining ships of standard size and equipment as naval auxiliaries.

As a naval reserve, additional pay should be allowed by the Navy Department to officers and men regularly employed on seagoing vessels who comply with navy requirements for this service. A distinctive pennant should be allowed to such vessels as comply in all respects to requirements as naval auxiliaries and tonnage bounty should be paid the companies so complying, with the understanding that in time of war such vessels shall be transferred to the naval establishment with their crews and equipment complete at a predetermined compensation.

6. Whether as a nation we restrict our people in the use of alcoholic stimulant, it is clearly proven that such restrictions as applied to passenger ships is at present unpopular. Public opinion will soon demonstrate if this use of liquor on shipboard is to be limited or restricted.

7. Subsidy other than as outlined will not be acceptable to the great body of our people unacquainted with maritime affairs.

SEES SHIP SUBSIDY AS ECONOMIC NECESSITY

Written especially for AMERICAN INDUSTRIES

By W. H. KEENAN

President, National Slate Association

EVERY thinking American realizes that we must turn our vast assets in ships into a live and efficient merchant marine. Our merchant marine is of first importance in assuring our national defense and for the maintenance of America's proper place in world commerce.

Out of the 1,432 ships owned and controlled by the Government, I understand less than 400 are in commission. It would be folly to permit this great

equipment to waste away unused. If properly employed, it can put the American flag back on the cargo and passenger routes, secure our fair proportion of the world's trade, as well as provide the nucleus for an effective reserve against possible war needs.

Reasonable financial aid to keep this fleet going is common sense economy. It is a "stop loss" measure of turning a liability into an asset. To deny or obstruct an efficient and reasonable subsidy measure leaves the vast expenditures already incurred to go for nothing.

As is the practice of one or two other efficient merchant marines sub-

sidies, there should be some incentive attached to the financial aid given any ship-owning company to bring about improvements in design, equipment, and operation. That is, instead of the ship subsidy being a guarantee between loss and profit of inefficient management or careless operating companies, it should be granted rather as a reward for good management or the promotion of the best interests and development of marine practices. In other words, concerns making no effort to be efficient or to bring about improvements should not be subsidized as heavily as those carrying out the intention of the plan to the fullest extent.

Need Ample Shipping For National Growth

Written especially for AMERICAN INDUSTRIES

By **GEORGE M. VERITY**

President, The American Rolling Mill Company

I AM sure that every business man is vitally interested in the subject of an American merchant marine.

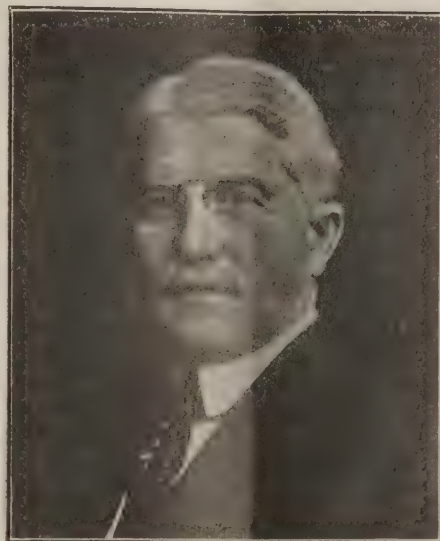
All those who have seriously studied the subject will, I feel, concede that the United States of America can only enjoy a maximum prosperity when it finds a foreign market for the surplus products of farm, mine, and factory.

Cost of living is based largely on the cost of production of all things that the individual consumes.

Minimum costs are the result of maximum production.

Maximum production is only possible when the markets at home and abroad are able to continually absorb that production.

All other things being favorable, the United States cannot hold its own in the markets of the world and rely on the delivery of our products in ships of foreign register operating under



George M. Verity

laws and conditions with which we cannot compete. If we are to build up and maintain a real export trade,

our goods must go forward in American ships manned by American seamen.

If this cannot be accomplished without a ship subsidy, then it is surely in the interest of the nation as a whole to have some sound and reasonable subsidy granted.

Under such circumstances, "shipping" cannot be considered on an equality with other American industries, for it is simply supplying a **NEEDED MEANS OF TRANSPORTATION** for the use of every American exporter in the interest of national prosperity.

It must be remembered that foreign trade must be carried on under many difficulties. It is still a pioneering proposition to the average producer, and he who can successfully establish a demand for his product in foreign countries in spite of the many hazards to be met and overcome, is making a contribution toward a condition that makes for **NATIONAL PROSPERITY**.

Must Repeal At Once Absurd Ship Laws

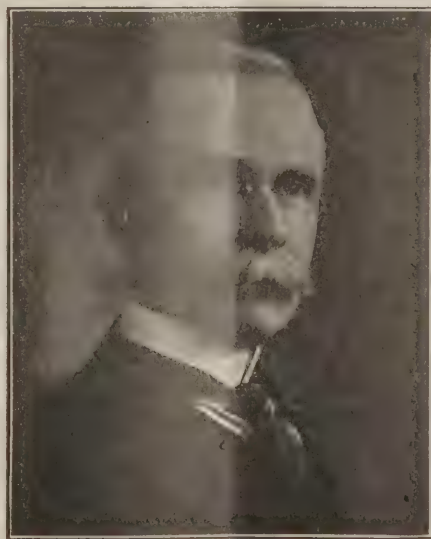
Written especially for AMERICAN INDUSTRIES

By **HENRY ABBOTT**

President, Calculagraph Company

RESPONDING to your conundrum "Do we need a Ship Subsidy and why?" It would undoubtedly be productive of public benefit to have a sufficient tonnage of American owned ships upon the seas and to insure their permanence by making their operation profitable. If under our peculiar shipping laws and the higher cost of American labor to man and operate our ships they cannot compete with foreign owned vessels, then our Government must, in some form, grant pecuniary aid to the individuals or corporations owning such American ships. Such pecuniary aid must be sufficient in amount to equal the subsidies granted to foreign owned ships and to cover the difference in the cost of labor and other expenses of operation, so that our ships may compete on an equal footing, for freight and passengers with the vessels of any other nation.

On the several occasions during the past twenty-five years, when subsidy bills have been before Congress, opposition has developed and sufficient votes to defeat the various measures were found among representatives and



Henry Abbott

senators from interior states having no seacoast. Arguments against a ship subsidy were often based upon the theory that citizens of the central states had no interest in shipping and should not be required through taxation to pay tribute to ship owners or others in the large coast cities who were engaged in business requiring ocean transportation.

There never was a more erroneous argument based upon a more false statement of fact. Every citizen, wherever located, whether engaged in manufacture, in trade, in agriculture, in any gainful occupation, receiving salary or wages, is affected favorably by the presence, or unfavorably by the absence of, merchant ships carrying the American Flag on the high seas.

If our people were depending upon the complaisance, courtesy or self-interest of the foreign ship owner to carry our wheat to foreign markets, the Kansas farmer might be compelled to accept in the home market, a smaller price for his wheat. It is conceivable that a foreign nation having a subsidized merchant marine might find it to its interest to dictate preferential freight rates from its colonies where wheat is grown or other commodities produced. They might even put an embargo on our products in the interest of their own citizens or subjects. The same possibility exists with reference to our manufactured products, and when markets are limited for any reason the demand for labor is very quickly curtailed.

Surely, the American people and their law makers should not so soon forget our lack of preparedness, and

our desperate need of merchant ships during the early period of our participation in the late war; how we feverishly worked our ship yards night and day with any available workmen, competent and incompetent, to get out as quickly as possible any old tub that would float and that looked like a ship, whether made of wood, steel or concrete, which it would be possible to use for the transportation of our soldiers and war materials to France. They should not so quickly forget that we wasted in that effort enough money to pay a reasonable subsidy on an adequate merchant marine for a period of twenty years.

Our people and our law makers should not so soon forget that during that period we were compelled, to our everlasting shame, to borrow from our allies ships in which to transport our own soldiers and our own war materials to the fields of the war we were trying to prosecute.

We cannot foresee who may be our enemies in the next war. It is possible that friendly or allied nations may not then find it convenient to lend us their ships. It is conceivable that our enemy may be unwilling to lend us its ships, and also may be unwilling to defer operations until we can ourselves build them.

If as a nation, we have any self-respect; if we wish the respect of other nations, we will at once repeal our absurd shipping laws and enact others that will encourage the building and operation of American ships. If they cannot be profitably operated without a subsidy, then let us have a ship subsidy law.

GREAT ASSISTANCE TO INDUSTRIAL EXPANSION

Written especially for AMERICAN INDUSTRIES
By CHARLES B. KING

Vice-President and General Manager, Marion Steam Shovel Company

YOU ask me for a brief statement of my views on the ship subsidy question from a manufacturer's standpoint.

I will state, first, that this question, in my opinion, is of such importance and so vital to our industrial and national welfare that it cannot be properly covered in a brief statement. However, as I feel that most of us have a general knowledge of the subject as to its details of plans and objectives, I will not attempt to go into a discussion of that phase of the question.

I heartily concur with President Harding's approval of the measure now pending, and feel that both branches of Congress should give it their early support. I believe they will do this more speedily if our American

citizenship will bring the subject in an effective manner to the proper attention of their representatives, acquainting them with the national benefits that would be derived from such action toward a proper legislation on this constructive measure.

The United States has long needed a ship subsidy to build up her merchant marine and place it in its proper class with that of other nations. Since the World War this need is obviously far greater than ever before and it is my sincere hope that there will be no further unnecessary delay in securing the legislation required to bring this question to a proper conclusion.

Our future national welfare depends greatly upon the development and expansion of our industries. I know of nothing that would be of greater assistance to industrial expansion than the developing of our foreign trade more extensively than in the past.

A subsidized American merchant marine, in my opinion, is essential to the needful development of our foreign trade and industrial progress.

Yours for a ship subsidy.

OTHER NATIONS SEEKING TO BLOCK UNITED STATES

Written especially for AMERICAN INDUSTRIES

By WILLIAM H. DOUGLAS
President, Arkell and Douglas

THE United States is not only justified but would be sacrificing the interests of our merchants and manufacturers if we did not promptly take adequate steps to secure our fair share of the carrying trade of the world.

Other nations are advancing, as in the past, every possible argument to deter us, and endeavoring to strengthen their hold on our deep sea business and secure a rich return in profit which should go to our ship-owners.

It is time our country, while recognizing the rights of others, adopted a more pronounced policy in safeguarding and advancing our own interests on the sea.

At an enormous sacrifice of money during the war we built a large fleet of vessels and probably have available some five millions of tonnage suitable to the deep sea trade.

We must decide whether these ships will be gradually sold and probably put into alien hands, or whether they shall be utilized under private American ownership and operation for our own good.

Personally I am strongly in favor of having them utilized to establish lines to benefit our commerce with all leading countries of the world, and to be available to aid our navy should occasion again demand.

It is well known, by reason of our

laws and other disadvantages under which we labor in competition with other countries who favor their shipping in many ways, that without proper government aid we cannot maintain our flag on the ocean.

Experience has taught us and should have convinced every citizen who has studied the subject that we should no longer hesitate but grant adequate and proper compensation to those who will handle our deep sea fleet. Any other policy would be suicidal and fatal to our national advancement.

As a people so justly proud of our magnificent past record as a maritime nation, are we willing to submit much longer to our present humiliating position?

Whether Congress will pass a direct subvention bill, or legislation along somewhat different lines, to accomplish the purposes we desire, cannot be definitely stated at present, but that legislation is essential and quickly necessary those well posted are thoroughly convinced, and I heartily endorse the avowed Government intention to keep our flag flying, and condemn the Anti-American propaganda unfortunately so prevalent.

NATION EXPANDS AS ITS SHIPPING GROWS

Written especially for AMERICAN INDUSTRIES

By E. E. KNOBLOCH
Treasurer, Union Iron Works

WHAT of the future of American shipping?

Gone are the days of the American clipper; the sturdy sailing vessel that carried the flag and the business of this country to all the ports of the world.

It was these same New England clippers, privately owned and operated, built in American yards, of home grown material, by farseeing masters, employing native labor and later manned and officered by these same owners themselves, that afforded the nucleus of America's merchant marine that showed its heels to everything on the high seas.

Sailing with freedom under the American flag and without handicaps imposed by restrictive legislation, this fleet began the development of America's naval prestige.

Gone are the days of the clipper and more's the pity.

To have successful commerce there must be more privately owned ships. These same privately owned vessels in time of emergency will also afford safety to the nation.

American shipping, whether owned privately or otherwise, must also be freed from some of the drastic handi-

caps that are driving it from the seas.

It is my sincere belief that unless something be done for the further protection and safeguarding of American shipping business, the nation as a

whole cannot continue to expand as it should and it should be the hope of the nation that the time will come soon when the business man in Congress will appreciate the significance of the

right of privately owned business to be operated with freedom from unreasonable restraint aided and supported, if necessary, by the Government under which it operates.

American Ships Need American Protection

Written especially for AMERICAN INDUSTRIES

By WILLIAM H. CLIFF

Secretary, Home Market Club

THE success of our valiant soldiers on the battlefields of France could never have been achieved, in the eventful years of '17 and '18, without the undivided support of the whole country. This support not only included the youths of the country, who comprised our armies, but also the wealth of our population and the products of North, South, East and West, which came from under the roofs of the factory, from the open fields of agriculture and from the depth of the mines.

However, we should always bear in mind that those immortal heroes could never have reached the shores of France if it were not for foreign ships, because we had practically no merchant marine. The first half of the nineteenth century found the Stars and Stripes floating proudly at the mast head of the American merchant marine over the seven oceans of the world. Since 1858, when protection was sud-



William H. Cliff

denly withdrawn from our shipping industry, it had deteriorated until in 1914 it had become only the mere shadow of the glorious past.

Under the Limitation of Naval

Armaments agreements, entered into by the leading naval powers, the necessity of an American merchant marine is more vital than ever. With this agreement in force, a merchant marine is essential as a naval auxiliary.

Through the exigencies of the war we built a vast tonnage of American shipping. This shipping needs the safeguard of the historic American system of protection that has been accorded to many other lines of industry.

Through protection our great industries have been built. Our farmers have added limitless acres of productivity under the sheltering wing of protection. Our laborers have obtained the highest wages in the world under the policy of protection. Through this system the American standard of living has been raised far above that of any nation on earth. The extension of this policy to American shipping will give to us an American merchant marine that is commensurate with our wealth and in keeping with the majesty of our prowess.

Restrictions On Our Shipping Too Great

Written especially for AMERICAN INDUSTRIES

By GEORGE W. TODD

President, Todd Protectograph Company

I BELIEVE a subsidy is necessary if we are to have merchant ships; but even with a subsidy, I am afraid that we cannot successfully compete, for, while we all would like to make our shipments in ships flying the Stars and Stripes, rates and service will finally be the determining factor.

Congress has loaded our ships down

with many unnecessary laws and restrictions that put us at a great disadvantage. In fact, I firmly believe if we were on an equal footing with other countries that subsidies for other than fast passenger and mail ships would be unnecessary.

Some day Congress will pass an eight-hour law, prohibit vessels from "hugging the shore," sailing after dark, or getting out of sight of land.

We need the ships, make no mistake

about that, if our merchandise is to receive fair treatment. To illustrate: A few years ago our company made a shipment to a South American port. It never arrived. The steamship line wrote us that it was "unloaded at the wrong port," and was never received by the consignee. We put in a claim, and we were told to go to the devil.

I am afraid it would do little good even if Congress voted a subsidy.

Prohibition Wrought Havoc To The Marine

Written especially for AMERICAN INDUSTRIES

By W. F. WILEY

Editor, "The Cincinnati Enquirer"

BEFORE the welter of blood and slaughter that began in 1914, it was a matter of deep regret to real Americans that the flag of this nation was conspicuous on the seas of the

world only by its absence. With the termination of the great World War and the existence of a vast American fleet it was the proud hope and expectation of every true American that the flag then being kissed by the breezes on all seas would continue majestically to carry to all quarters of the globe the

insignia of the American nation.

Necessity and opportunity had combined to place the American nation among the foremost mercantile marine nations of the world. We were competing successfully on equal terms and conditions until the unfortunate intersection of the National Prohibition

Law in the situation suddenly wrought havoc probably irremediably to the great merchant marine.

A subsidy to maintain our marine on an equal footing with the marines of other countries would be burdensome under normal conditions. Groaning as the nation is under a mountain of debt it would appear that the bestowal of a subsidy to keep the flag flying on the high seas would be little short of criminal. The load of taxation carried is sufficiently heavy. There can be no justification for increasing that burden merely to enable an American Merchant Marine to compete on dubious terms with the more favored marines of more liberal nations.

TRADE WILL ALWAYS FOLLOW THE FLAG

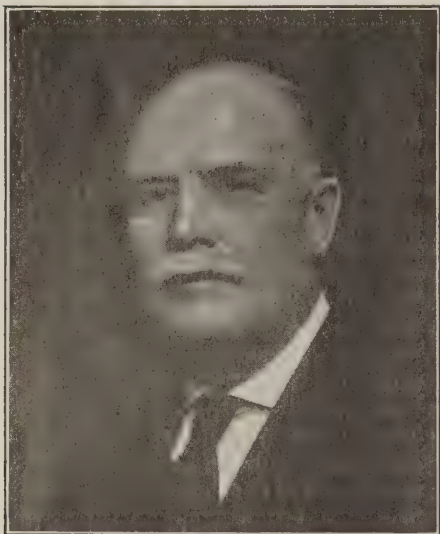
Written especially for AMERICAN INDUSTRIES

By **AUGUSTINE DAVIS**

President, Davis Automatic Equipment Corporation

RADE follows the Flag."

Government interference in legitimate business is bad practice, but when it extends special privileges in one direction, it can hardly escape off-



Augustine Davis

setting them in an opposing direction.

Our shipbuilding has already fallen below that of other principal nations and, the burdensome regulations established by our Government in the employment of seamen on ships carrying our flag, make their services more costly than that of any other nation, thus creating a handicap that tends to make investment in American ships, less and less inviting.

These regulations must be reasonably modified or a bonus or aid of some kind, be extended to our merchant ships to offset this extra cost, otherwise our flag will be driven from the International seas and our National

shipping forced into the insignificant and humiliating position it occupied at the beginning of the World War.

If such becomes the case the seamen themselves would be the first losers as they could hope to find employment only on foreign vessels.

President Harding must possess the most complete information possible on this subject and with his intense desire to reduce Federal expenditures, it is inconceivable that he would favor a ship subsidy if it were otherwise possible to retain our rightful position in the maritime world.

"Trade follows the flag."

BELIEVES THE FARMERS OPPOSED GENERALLY

Written especially for AMERICAN INDUSTRIES

By **R. P. KESTER**

Editor, the "Pennsylvania Farmer"

IN opposing the general proposition of ship subsidies, we believe we are in line with the general farmer sentiment of the country. There are deep-seated reasons for this opposition which are too difficult to put over satisfactorily to the minds of those in other industries. To explain it fully would require more than space and time will permit.

The very nature of agriculture makes the economics of the business different from those of any other line. The products of agriculture are so entirely at the mercy of the law of supply and demand that the farmer has no choice in the price he receives for his products. He naturally opposes any movement guaranteeing the income of other industries or the paying of ship subsidies because he must bear a part of this guaranteed income, while he has no means whatever of passing on the added cost and absolutely no guarantee concerning his own prices or income.

The opposition is not based on prejudice nor ignorance, but they believe that until all business may be conducted with more or less certainty of success, it is not wise to guarantee the success of any line, since it brings an unfair burden upon those who must operate under competing conditions.

Since the indications are that the shipping corporation which is, or will be most actively interested in receiving a ship subsidy, will secure their ships at a fraction of their cost, it does not seem likely that the people should bear this extensive liquidation and in addition, go down in their pockets and pay abnormal rates or guarantee cost of operations.

The spirit of American institutions has always been in favor of fair and open competition, with special privileges to none.

PRESENT HANDICAP OFFSETS A SUBSIDY

Written especially for AMERICAN INDUSTRIES

By **FRANCIS L. HINE**

President, First National Bank of New York

I AM opposed to a ship subsidy so long as the LaFollette bill remains unrepealed. The handicap to our merchant marine in my judgment more than offsets a \$50,000,000 subsidy.

THE SHIP SUBSIDY A PROTECTIVE TARIFF

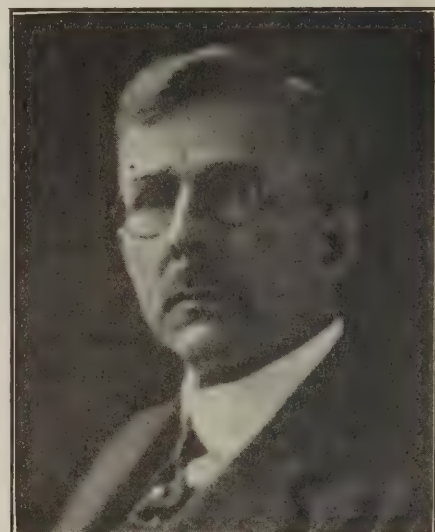
Written especially for AMERICAN INDUSTRIES

By **CLARENCE HODSON**

Clarence Hodson and Company

ALTHOUGH I am by principle opposed to all practices which tend to confer special benefits on limited classes of individuals or business organizations, I regard a subsidy from the United States Government to our shipping industry as essential to the stable progress of the nation's industries.

I believe that the subsidy to be granted should be most carefully graduated to the exact needs of the maritime in-



Clarence Hodson

dustry of the country and it should not be continued an instant longer than is necessary.

It is an accepted fact that the cost of construction and the cost of operating American built vessels under the American flag are greater than similar costs of vessels of foreign registry. It is also generally agreed that an adequate merchant marine is a key industry upon which the prosperity of our entire industrial structure largely depends. On that basis it would appear that the shipping industry is entitled to the same protection against lower cost foreign competition that is granted to other industries by the protec-

ive tariff. To my mind the ship subsidy is nothing more or less than a tariff which will equalize the operating costs of foreign vessels operating under foreign flags and American vessels operating under the American flag.

Our foreign trade to-day is approximately 10 per cent of our total annual agricultural and industrial production. All business men realize that a 10 per cent differential in production and consumption

means a 25 to 40 per cent difference in the value of the commodities affected. Therefore, unless we are to reduce our production 10 per cent and our wages and selling prices 25 to 40 per cent, we must develop our foreign trade along sound lines. No nation in the world can develop foreign trade and maintain it properly unless it has its own merchant marine and the United States cannot maintain

a merchant marine to-day unless it is given extraordinary advantages that will equalize the handicap which foreign vessels to-day enjoy.

I hope and believe that Congress will pass the ship subsidy and in that way add materially to the steadily increasing prosperity of the nation that is reflected in increased employment, larger demand for all of the nation's products and the stabilization of values.

Our Flag Menaced On Seas Of Commerce

Written especially for AMERICAN INDUSTRIES

By RICHARD H. EDMONDS

Editor, "The Manufacturers' Record"

FOR more than a third of a century the *Manufacturers' Record* has constantly advocated subsidies sufficient to develop our merchant marine, as one of the most essential factors in national prosperity and in national safety in time of war. It so happened that in the last war our Allies had large merchant fleets, or otherwise we would have been able to accomplish very little.

It seems inconceivable that so many of our American people do not realize the supreme necessity of building a merchant marine and maintaining it for the advancement of our business interests and the safety of our country. A subsidy to American ships is not a bonus or profit paid into the treasuries of their owners, but is the price that we must pay for the maintenance of laws which make the cost of running an American ship very much heavier than the cost of operating ships under other flags.

Nearly thirty years ago I attended a meeting of Southern cotton manufacturers composed of some five or six hundred men, the very foremost at that day in the development of the industrial interests of the South. At that meeting Mr. D. A. Tompkins, of Charlotte, one of the most farseeing political economists that the South has ever produced, and who had then built, or as engineer planned, more than one-half of the cotton seed oil mills in the South, made an address strongly favoring a subsidy to American ships. His speech was enthusiastically received, and his resolution on the subject unanimously adopted. That was the spirit which was abroad among the leading business men of the South at that time, and I believe that it is a spirit which still lives among very many of the foremost men of that section. The fact that there is a strong and determined spirit among Southern leaders in behalf of the things which

make for national development, such as a ship subsidy and a protective tariff, was strongly indicated in the activities of the Southern Protective Tariff Association, composed of bankers, manufacturers, farmers and others.

Thus, while the South, long handicapped by free trade theories due to politics, is turning from these false idols, it is turning at the same time to a recognition of one of the points made in Mr. Tompkins' speech—that the



Richard H. Edmonds

economic policies which are beneficial to the North and West are of equal benefit to the South. "There is no longer any reason why the South," said he, "should regard its economic policies as in any way different from the policies which would be beneficial to Massachusetts or other purely industrial states, for" said he, "the industrial and agricultural interests of the South need exactly the same economic policies which have given prosperity to other sections."

Without national financial aid it would have been impossible for this country to have had the benefit, after

the Civil War, of the construction of our transcontinental railways, which by opening up the West and connecting the Atlantic with the Pacific, enormously enhanced the prosperity of the whole country, and united it in closer national bonds than would otherwise have been possible. The same spirit which dared to put back of these railroad enterprises the power of the national government, must now be put into extending these national highways across the oceans of the world. In effect, the steamship line is merely an extension of our railway lines. We can not develop our foreign commerce profitably or to as large an extent as would otherwise be the case, without doing it under our own flag. The American business man when visiting other countries for the purpose of increasing his trade, can do so with far greater influence back of him when he sails under an American flag. So long as our flag did not fly in the ports of the world every shipper from this country was handicapped, and every traveller felt that though he represented the greatest nation on earth, he could not travel beneath his own flag. Every American flag that flies on the seas or visits the ports of the world is a tremendous factor in increasing the respect of other nations for the trade possibilities of this country, and as an advertisement pure and simple it is worth more by far than the estimated cost of the bonus.

We can not possibly run our ships in competition with foreign ships without a bonus or subsidy unless we put our ships on the same level as to the number of employees and the rate of wages paid. That is impossible. We can not and should not seek to compete in low wages with the ships of many foreign countries, and unless we do so or unless we protect our ships by subsidy, the American flag on merchant ships will be practically driven from the seas, a disaster too great to contemplate with any degree of equanimity.

Great Commercial Nations Subsidize

Written especially for AMERICAN INDUSTRIES

By H. H. RAYMOND

President, Clyde Mallory Lines and
President, American Steamship Owners'
Association

FROM the first Federal Congress under the Constitution, in 1789, to the present day it has been the declared national policy of the United States to aid and encourage American industry and labor. This was the specific purpose of the very first national law. In the scope of that law, not only manufacturing and agriculture but ocean shipping was included.

For more than sixty years, ocean shipping has been left out of that policy—the only industry thus neglected. Our country has foolishly chosen the overseas carrying trade—the most intensely competitive of all businesses—as the one in which to try its only free trade experiment.

That experiment has ignominiously failed. The world war found Ameri-

can industries strong everywhere except on the high seas. There we were so weak that the government had to expend three and a half billion dollars to create a merchant fleet, which could have been established by the expenditure of a small fraction of that sum, through peace years before the war, for systematic national aid, as the shipping men and the business men of the United States had year after year—in vain—recommended.

To ignore that tremendous object lesson would be madness now on the part of the national lawmakers. There will be other wars, and there is all the time an imperative need of American ships for the proper serving of American commerce. Subsidy in some kind or degree is the unvarying practice of the great commercial nations of the world. Some subsidize their national mail lines and aid the rest of their shipping in other ways. Others sub-

sidize all their shipping.

The present American merchant marine bill employs both subsidies and other indirect but effective forms of national assistance. It is a great, strong measure. It must be strong in order to succeed. It has the united indorsement of the manufacturers, merchants and bankers of this country, as voiced through their representative organizations. It has the support of the ship-owners, shipbuilders and ship operators—the men of practical experience and information. It has the powerful backing of the National Administration, whose expert officials have framed and sponsor it.

The national merchant marine bill tremendously strengthens American commerce and the national defense. It should be enacted as a long-delayed measure of justice to the merchant marine and as a long step forward in genuine constructive statesmanship.

National Marine Aid Economically Sound

Written especially for AMERICAN INDUSTRIES

By A. E. ASHBURNER

Foreign Sales Manager, American Multigraph
Sales Company

THE Ship Subsidy bill is a bill that should have the conscientious consideration of our legislators at Washington, for there is no bill of greater importance that will come before the next session of Congress than this particular bill. It is to be hoped that Congress will be so broad-minded that they will not let anything stand in their way when it comes to passing the Ship Subsidy bill.

As a matter of fact, any legislation that will give national encouragement to our Maritime Industry and the up-building of a force so constructive in international commerce as the American Merchant Marine, is economically sound. Let our Government eliminate the hopeless odds under which our Merchant Marine has been operating in the past and encourage through subsidies and other clearly defined legislation and place us on an equality with other maritime nations of the world.

What subsidies have already done for the British and even for our own

country in our early maritime history, they will again do, for surely if it was worth while for us to make the enormous expenditures during the war in building up our American Merchant Marine, it would seem only good judgment on the part of our Government to adopt a Merchant Marine Policy that was so practical in its scope that it would enable us to organize and develop to a point where it would give our country that commercial security, which of necessity is given to any country who encourages, maintains and develops its Maritime Industry.

Must Build Shipping As Adjunct Of Trade

Written especially for AMERICAN INDUSTRIES

By HENRY F. GRADY

Director, Foreign and Domestic Trade Dept.
San Francisco Chamber of Commerce

THE matter of subsidizing shipping is one that is intimately related to our foreign trade and any ship subsidy program should be worked out as part of a general foreign trade policy. The purpose of a subsidy is to give a bounty to foreign commerce and that bounty is justifiable only in so far as it results in the development of foreign commerce. No bounty is a satisfactory substitute for cargoes. The theory of the bounty is to increase car-

goes. Therefore, the stress should be placed on the development of foreign commerce, and the bounties given through the medium of subsidized transportation should be merely an aid to the out-flow and in-flow of commodities where conditions warrant.

One gets the impression from a great deal of the discussion on the ship subsidy that it is regarded as an end in itself. It is not an end in itself, but a means to an end, and that end is the development of trade. A country serious about its foreign

trade will, therefore, do everything in its power to foster foreign trade and will furnish a bounty through the medium of subsidized transportation only where there are obstacles to the flow of commerce that cannot be overcome in any other way. Moreover, these obstacles must in the nature of things be temporary, and the bounty or subsidy an aid in the overcoming of these temporary difficulties.

Bounties to any form of economic activity are only justified as temporary aids and as a means of bringing that activity to its full vigor. If there

are inherent weaknesses in an industry the sound procedure is to correct these weaknesses rather than subsidize them by permanent governmental aid. In the case of our shipping, we should on the one hand take legislative action to remove any impediments in the way of reduced cost of operation, and on the other, the industry itself should seriously take up the matter of improving its technique and in that way work toward a position where competition without subsidies is possible.

A policy of restricting commerce

through prohibitive tariffs on the one hand, and of subsidizing shipping on the other, has always been and will always be irreconcilable. If we seriously want foreign trade let us formulate a national policy along the lines to secure foreign trade, and then put our shipping on a sound basis through such legislation as is necessary, and such temporary subsidies as will aid the industry during its period of infancy. Subsidies are thoroughly justified from this standpoint and I believe we should have them, but I also believe

most emphatically that it is futile to discuss a merchant marine program that is not made part and parcel of a foreign trade program. We must build up our shipping as an adjunct to our trade, but it would be absurd to attempt to build up our shipping at the time we are killing trade. The way to make shipping profitable is to stimulate the flow of cargoes. If the cargoes are adequate the problem of subsidies will be greatly reduced, and the effect of such subsidies as are justified will be greatly augmented.

COST THE SAME, WITH OR WITHOUT SUBSIDY

Written especially for AMERICAN INDUSTRIES

By J. R. MONROE

President, Monroe Calculating Machine Co.

THERE are certain basic principles covering the granting of a ship subsidy which are practically beyond dispute. It may be that in theory a subsidy of any kind is wrong, but it has been the practical experience of this country that unless our Merchant Marine receives some sort of outside assistance it is unable to compete with that of other countries.

questions the need of assistance if our ships are to compete with other nations, and we must assume that opponents of any ship subsidy prefer to let foreign ships carry our commerce rather than pay out the necessary money to make competition on an even basis possible.

There is a very well established principle of business, but one which is very often overlooked by the shortsighted, that if there is a real need for anything, it is paid for whether or not it is actually purchased. It strikes me that this is the strongest argument in favor of a ship subsidy. It will cost us just as much or more in the end whether we grant the subsidy or not.

can shipping laws. It costs more money to feed, quarter and pay American seamen than any other seafarers afloat. There are also higher capital charges. It is obvious therefore, that American ships are at a distinct disadvantage in competition for world trade and in the carriage of our own exports and imports. The American clipper ship did an international business. Their cargoes were not always ice from the Kennibec to India, but the able merchant captain competed for cargoes to haul between foreign ports. Shipping was a real business then and not the makeshift it is to-day

SHIP SUBSIDY MORE VITAL THAN TARIFF

Written especially for AMERICAN INDUSTRIES

By EVERIT B. TERHUNE

Publisher, "Boot and Shoe Recorder"

WHEN the American clipper ships were known the world over and when the merchant captains were creating markets for American goods and were bringing to our shores commodities from the far corners of the globe, there was no need for ship subsidy. Down on the wharves of Salem, lads of ten to twenty years of age were glad to ship on long apprenticeship to be able to see foreign ports, and recompense was second in their minds to training.

A large portion of the economic development of our country came through men who had served their apprenticeship at sea and who brought back rugged bodies and alert minds for the problems of industry. All this is gone, for the boys of to-day take their adventures from the movies instead of on the high seas. Those who go "down to sea" expect to be paid for it—and at a rate almost equal to shore wages.

It costs big money to build, operate and maintain American ships on the high standards demanded by Ameri-



Everit B. Terhune

with steam and sail awaiting cargoes instead of going out after them.

Ships cannot compete to-day with the low cost standards and low priced crews of foreign competitors, therefore indirect and direct aid to American shipping is obligatory if our flag is to be flown on other than toy battle-ships a-junketing. We must restore the prestige of our merchant marine. The subsidy measure is not a crutch to a weak industry, but a protective measure as important as any tariff clause because it upholds American standards of living and American standards of business. For this country to be entirely at the mercy of



J. R. Monroe

The reasons are many. Two of the most important are, I believe; first, assistance in the form of a subsidy or otherwise is given by other countries; and second, legal requirements of our country add greatly to the expense of running our ships. It may be that these legal requirements are more burdensome than is necessary to protect the interests of the seafaring man and the traveling public, but I do not believe it would be possible to get native sailors for our ships without giving them greater protection and advantages than are enjoyed by most foreign seamen.

I do not believe anyone seriously

foreign bottoms is to cut us off to even a greater extent than the pitiful spectacle of helpless China.

Ship subsidy should be taken out of politics and should be made an important legislation based on a ten or twenty

year plan of operation so that any change of party politics does not destroy capital and opportunity in shipping.

We can raise the wheat and food-stuffs, we can build machinery and

clothes, but unless we deliver the goods there can be no real economic foundation for the continuance of high-grade American standards of living, and there can be no economic security to the country.

Will Overcome The Subsidy In Ten Years

Written especially for AMERICAN INDUSTRIES
By **CHARLES A. McALLISTER**
Vice-President, American Bureau of Shipping

IF there is any one policy before the American public in which partisan bias does not enter, it is in regard to our shipping. Both the great political parties in their platforms for many years past have gone on record as favoring the rehabilitation of our merchant marine. There are, naturally, differences of opinion as to how this best can be done. Many statesmen have advocated discriminating import duties as the best solution, and in fact such a policy is now the law of the land, but both former President Wilson and President Harding are of the opinion that such policy is inadvisable because of certain treaties now extant, hence that law has not been enforced. Many people are still firmly of the opinion that the existing law would solve the problem, but there is no hope of its being enforced. In consequence the pending subsidy bill appears to be the only practical solution.

The question is often asked how long we will have to subsidize our ships. In all probability, within ten years we will have learned the shipping business and applied American talents and methods to the problem, so that at the end of that period our merchant marine can look after itself. Just remember that when we started to manufacture steel, now one of the greatest of our industries, our mills could not compete with foreign manufacturers any better than our ships, now unaided, can compete with foreign ships. By a wise system of protective measures during its infancy, the American steel industry now leads

the world and brings millions of dollars of revenue to our people. Many others of our leading industries have been built up in the same manner. Had it not been for the wide vision and constructive attitude of our statesmen in the past generations, America to-day would have been purely an agricultural country and not the leading manufacturing and commercial country of the world. Let the present generation of statesmen prepare for continued prosperity by enacting this most essential legislation to make permanent an efficient merchant marine under our own flag.

If we are put out of the overseas shipping business, foreign vessels can make the rates so high as to debar the products of our farms, until all available wheat, cotton, etc., from competing countries have been sold. In the past summer, when the nation-wide coal strike had forced us to buy thousands of tons of coal abroad, the freight rates on that indispensable commodity started to soar. We had many ships laid up, and as soon as a number of them were put into the coal business, the freight rates immediately dropped.

Suppose we had had no ships of our own, what would have happened? Let the farmer apply this condition to his wheat, corn, pork, beef and other products and he will see immediately that he has a greater interest in a ship subsidy, perhaps, than any other industry.

The ship subsidy bill will not put a heavy burden on the country. It will save money for the following reasons:

The pending measure only provides subsidies for a period of ten years. For the first year the cost will only be \$15,000,000. The average cost for the entire period will not be over \$40,000,000 per annum, according to expert testimony.

We are now spending at the rate of \$50,000,000 per annum to operate the Shipping Board fleet, which is found absolutely necessary to carry on our foreign trade and to prevent exorbitant freight rates being levied on us by foreign carriers. Almost all this sum will be saved by selling the ships to private operators.

We now have over 10,000,000 tons of ships in the possession of the Government, as a direct salvage from the Great War. As private owners cannot operate them successfully, there is but little demand for them and they are laid up. Vessels not used, no matter how well cared for, rapidly deteriorate. Some are being sold at ridiculously low prices, because that is now the only way they can be sold. The recent sales of Government-owned ships do not average much over \$20 per ton. If this bill is passed, and private owners can operate the ships successfully by means of its benefits, the sale value for the remainder of the Government fleet will advance rapidly. This enhancement of value alone should more than offset the entire ten years' cost of the subsidy, so it is plainly to be seen that the taxpayer will be directly benefited by a reduction instead of an increase in his taxes.

Indirectly he will be greatly benefited by the increased sales of our goods in foreign markets, and the general prosperity which such will bring.

SHIP SUBSIDY FACES

A GREAT OBSTACLE

Written especially for AMERICAN INDUSTRIES
By **W. A. LAYMAN**
President, Wagner Electric Corporation

IAM in favor of a Ship Subsidy, but there is one difficulty with the situation which I think is going to be insurmountable—namely, the LaFollette Seamen's Bill.

It may interest you to know that in conversation with a very level-headed retired farmer a few days ago, he expressed the view that it was a waste

of energy to talk about a Ship Subsidy measure until the Seamen's Bill had been repealed, or so amended as to put our shipping on a reasonably competitive labor basis with that of other nations. This old gentleman said that he would vigorously oppose a Ship Subsidy, the net effect of which was simply to pass a gratuity into the hands of American seamen. It was his opinion that if the law would give American shipping an opportunity, it could compete with the world without a subsidy.

PREFERS SUBSIDY TO NO REMEDY AT ALL

Written especially for AMERICAN INDUSTRIES

By **J. H. LIDGERWOOD**

President, Lidgerwood Manufacturing Company

A SHIP subsidy is fundamentally abhorrent, but the United States Merchant Marine is absolutely essential to our national life and defense.

How can the merchant marine live without a subsidy? We shall advocate the subsidy until a better remedy appears.

Enforce Efficiency In Shipping

Written especially for AMERICAN INDUSTRIES

By HENRY HERBERMANN

President, Export Steamship Corporation

CO-OPERATION between rail and ship services is the essence of the bill now before Congress to give Government aid to the American merchant marine. The other parts of the act are but auxiliaries to provide or make possible the service proposed by it. Commissioner Edward C. Plummer, of the United States Shipping Board, in his address before the Convention of Industrial Engineers on board the Government's crack passenger liner, the *President Harding*, in New York harbor, last October, gave me a title for this article, "An act to enforce efficiency in international transportation," and by that title in my opinion the bill could properly be called.

All of us recall the recent traffic blockades from which the Central West, particularly, suffered to such a great extent. Many of our leading shippers can testify to the demurrage charges which yearly impose, through delays in delivery or unloading and loading of cars, such tremendous burdens and losses on goods in transit, these losses ultimately falling upon the producer and consumer.

Coördination of rail and ship services will mean the virtual elimination of these blockades and subsequent losses and Title VI of the new shipping act, if adopted, will secure their co-operation. This section of the bill provides for the creation of a joint board, composed of members selected from the Interstate Commerce Commission and the United States Shipping Board, to accomplish this result. The duties will begin at the farm or factory and end only when their products are delivered safely to the consignee abroad. To arrive at these satisfactory services railroad cars and ships must be where needed.

Let us take a concrete case of how this coöperation should be worked out. A manufacturer in Chicago has a carload or more of freight to ship to the Levant. He goes to the agent in that city of the American steamship company operating to those ports and books his shipment. Next, application is made to the railroad for a freight car or cars at the same time indicating the date when the consignment will be ready for loading. The loading completed, the steamship agent is furnished with the car number or numbers and the steamship company follows the movements of the car or

cars from point of origin to the seaport from which the shipment is to be embarked. In cases of emergency, if the shipper demands it, the agent has his representative accompany the car or cars from the start to the arrival at the seaboard. Upon reaching the seaboard arrangements are made to transfer the shipment to the steam-



Henry Herbermann

ship dock. If the necessity arises we tender our lighter service, our trucking service or our warehouse facilities. If no emergency service is required the shipment is brought alongside the steamship terminal in regular course. Here the shipper is tendered the ship carrier's terminal facilities for loading the consignment on board the vessel. After the shipment is loaded the bill of lading is picked up and the steamer's agent in the port to which the shipment is consigned is advised of its departure and probable date of arrival, who in turn communicates with the consignee notifying him in advance of its debarkment.

These are the methods employed to-day by the Export Steamship Corporation, acting as managing agents for the United States Shipping Board vessels and freight carried on them, and it has yet to fail to have the goods in the consignee's place within twenty-four hours after their arrival has been indicated. Now it can be readily seen that co-operation must be had from three parties to expedite the effective transportation and delivery of the consignment. The shipper must have his goods ready on time for the railroad and the latter must spot his freight cars on the day agreed.

The railroad must indicate to the steamship company the date of arrival of these goods at the seaboard and the ship carrier must have his ship alongside the dock to receive them or be prepared to place them temporarily in a terminal warehouse to avoid demurrage charges and congestion. This is the main object of Title VI of the new shipping act and, as I stated at the beginning, its most vital section.

Coöperation and coördination are the efficiency twins of industry. More and more it is becoming apparent in transportation circles that system must have these attributes. The new shipping act will have a paramount influence in solving the problem now presented in international traffic provided it is passed by the Congress. But above all it will bring the American shipper and the American ship operator and owner in closer harmony with their co-partner, the railroads, and thus build up an American merchant marine which has been the one ambition of the President of the United States and the hope of every red-blooded American to see the flag regain its place of supremacy on the Seven Seas.

Then again, the effect of this co-ordination of effort of the carrier-units which form the chain of international transportation along the lines suggested in this article would be productive not only of great economy of operation of the individual units conducting the transportation but also result in increased efficiency of service. The plan once in effect, the refining process would begin in the correlation of parts and unification of system and we would develop new standards of transportation just as we have achieved success in other fields of endeavor.

We would make it possible to ship single bulk commodities such as grain, cotton, cattle, etc., from the farm or points of origin to foreign ports as a single job. To consider this class of shipments in general cargo is to misunderstand it. We should be able to ship single commodities such as these under a single bill of lading from points of origin to foreign ports by alliances or combinations between railroads and shipping interests. No one knows the economic loss of enforced division of rail and ship interests in this country, and when a combination of this kind is brought about it will go a long way towards the final establishment of a real merchant marine.

Let our Government, by legislation,

remove the artificial restraints upon trade and devise ways and means for credit extension—a good start toward that end would be to extend the Federal Reserve Banking System to all foreign countries. This would develop trade and once this trade is established it would then be a case of American ships competing with British, Norwegian, Dutch, Japanese and others for the moving of goods and the rule of the survival of the fittest would apply.

American operators should study the problem of how ships are run and correct the leaks and cut excessive overheads so that we could then compete with the world for economy and efficiency of operation. By doing this and refining our processes in other ways we would approach a stage of perfection in operation that would reduce our insurance rates both on cargo and ship to that now enjoyed by our foreign competitors.

Another factor in ship operation should not be lost sight of, and that is, good sailors to man our ships. We have plenty of them, but a good personnel cannot be built over night. Efficient officers are necessary and to get them requires that their hands must be upheld and be allowed to be "monarchs of all they survey" aboard ship. We should also see that the vocation of a ship master be placed on a high plane, the same as prevails among the English, Dutch and Norwegians. Our shipping interests and the Government should set a high standard and get wholeheartedly behind first rate training schools so that the public will feel that a well trained ship's officer is as important in our every day life as our doctors, architects or other professional callings. Figures prove that labor costs of operating an American ship are no higher than of ships of other flags. But even if there is a slight differential in favor of American seamen, this condition exists in industries generally and yet they thrive; proving that the American business man has overcome handicaps in other lines and it can be done in shipping.

As to our steel ships built during the war, they are all good, some better than others, perhaps; the reason for this however is apparent. When the cry during the World War was ships and more ships, the production of hulls and machinery did not keep pace and it became necessary in quite a number of instances to put turbine machinery into a hull designed for reciprocating engines and *vice versa*. This fault of improper installation can be easily corrected, as the design and build of these hulls are good and by betterments of Diesel propulsion installation in them, financed by the

Government, out of a construction fund at a nominal rate of interest and long terms, would put us way ahead in up-to-date propulsion at no cost to the Government. It would greatly enhance the value of our fleet in commercial pursuits or national emergency, and at the same time give work to our shipyards so that shipbuilding would not become a lost art. On the other hand a great many of our ships are the equal and in many respects superior to any others afloat and the proof of this statement is that we find foreign shipping interests constantly requesting the Shipping Board to allow them to purchase our ships for their own use and profit.

Further, the operation of such a large fleet of ships now under the control of the Government through its Shipping Board presents an opportunity for the scientific analysis of exact facts in all phases of ship operation which has never before existed. The application of the results of the studies to large groups of similar vessels is where the unusual opportunity to effect economies exist. Results in all industries have shown that it is only through the X-ray of scientific investigation that waste and inefficiencies can be shown to exist. In any industry where the principle of operation is based for generations on hereditary methods it is safe to say that that business is ripe for a cure. Success to-day is obtained particularly through specialists who obtain results by examination, diagnosis and application. The cure therefore to be lasting should be through the application of the most minute scientific analysis. Savings can be effected by analyzing ship operating cost by groups or subdivisions. Consider the major subdivisions as crew's wages, fuel, supplies repairs, subsistence, stevedoring.

Crew wages: While crew wages are more or less fixed by a set scale, an increase in such wages, through a bonus system, will invariably bring a reduction in total operating costs. There are many means which may be developed for applying a bonus. One of the possibilities is a bonus for elimination of waste based on a standard.

Fuel: The economical speed of a vessel has a most important bearing on fuel consumption. The economical speed for each type vessel should be determined and strictly adhered to. Economic combustion can only be obtained by a series of studies from the introduction of fuel in the furnace to the discharge of smoke through stack. In such an analysis may be considered furnace brick arrangement, draft arrangement, superheaters, stack temperature, etc. Such studies followed by adjustments will bring fuel

consumption to normal—or a set standard—results will without question follow the application of such studies.

Supplies: Maximum and minimum quantities of various supplies should be determined for each similar type ship; the maximum quantity to be determined by trade and length of run. On arrival of a vessel in port it would be the duty of the ship's operating personnel to indicate on forms prepared for the purpose, the amount of each item of supplies that they have in stock.

This list would be turned in for each department to a central Shipping Board representative. Material required for each department would then be furnished the vessel, either from storehouses or obtained on competitive purchases. The saving possible through a central supply section would be enormous. Consider two or three articles as an illustration—say a contract was let on a six months' basis (competitive bids) to some concern to supply electric light bulbs to all Shipping Board vessels in a certain port; another contract for waste; another for soap, another for red lead, etc.

Repairs: In this department efforts should be directed toward devising ways and means to reduce cost and give service.

Subsistence: Many articles of food may be bought on the same basis as that mentioned for supplies. After determining what can be purchased on a contract basis, placing the contracts would give a definite cost. An allowance however should be made for the steward's department that would give plenty of food yet hold the department within carefully defined limits.

Handling the operating costs on the basis of such an analysis is a big subject. The few comments here are but a suggestion of possibilities, a seed of thought which would bear bountifully if transplanted in the fertile soil of action. In considering the suggestion above, thought should be given to the one principal fact—that of handling each sub-division through a central specialized section with purchases and expenditures controlled through competition. In this way a vast improvement is obtained over the present method of having each operator set up his own method of handling such problems and purchasing indiscriminately; in most cases probably neither on a competitive basis nor on a basis of inspected quality.

Finally, it must not be lost sight of that we are a producing nation and have always a surplus of commodities, particularly foodstuffs, that the rest of the world wants. More and more

our manufactured products are gaining ground in the markets of the world, and we have a splendid fleet of American built ships and manned by American citizens to distribute this surplus and to foster and develop our trade in foreign lands, and always dependable in time of emergency when the vital interests of the nation are at stake. The lesson we learned in the late war at such great cost should be taken to heart and pondered

upon before we allow this magnificent asset to be dissipated as will surely result unless the friendly hand is extended to American shipping at this critical time.

It is unreasonable to accept as final the views emanating from various sources as representing the attitude of the farmers and the Middle West generally as being opposed to any form of relief to American shipping in the present emergency. Their interest is

as vital as that of the seaboard. The American ships are blazing new trails for the American merchants, they are the business getters for the farmer, the cattle raiser and the manufacturer, and this development of trade means prosperity for the artisan as well. All share alike in the benefits to be derived by aiding the American Merchant Marine to establish itself as a world carrier and the returns will be many times the cost.

Favors Subsidy As Temporary Urge

Written especially for AMERICAN INDUSTRIES

By A. B. FARQUHAR

President, A. B. Farquhar Company, Limited

REPLYING to your inquiry as to my views upon the matter of a ship subsidy, would say that although opposed to subsidies in principle, there are exceptions to all rules, and there certainly is an exception now. We are paying a large sum yearly for the care of idle ships, and these ships cannot be put to profitable use without a subsidy. It would manifestly be wise to use as a subsidy the money we are wasting in the care of these idle ships together with a reasonable additional amount to make their profitable operation possible. There is little doubt but our foreign trade will increase from year to year, and when exchange is settled on a sound basis there will be demand for all the shipping space offered.

There would, in my opinion, be less need of a subsidy and more chance to build up a profitable American merchant marine if the La Follette full

crew law and other unreasonably restrictive legislation were repealed or modified. I have read the history of



A. B. Farquhar

American shipping since the commencement of our Government, which

fills quite a large volume, and it is quite evident that nine-tenths of the legislation enacted has had the effect of crippling and discouraging it. When I commenced business in '56 most of our ocean freight was carried under our flag, and with the large number of vessels built during the war there is every reason why we should establish and maintain a profitable merchant marine if not put at too great a disadvantage by unwise restrictive legislation.

I do not believe that we should agree to any permanent subsidy. It is my opinion that with the repeal of obstructive legislation and a reasonable assistance in the way of subsidy, we could again establish our merchant marine on a sound and permanent basis—a result greatly to be desired, not only because of its favorable bearing upon our overseas trade but because it is an essential factor in time of war. Our naval vessels are of little service without the support of a merchant marine. I therefore, in the present circumstances strongly favor a ship subsidy.

Unfavorable Laws A Serious Handicap

Written especially for AMERICAN INDUSTRIES

By PHILIP S. TULEY

President-Treasurer, Louisville Cotton Mills Company

IHAVE long felt that we should establish a ship subsidy in order to develop the American Merchant Marine. I think that our failure to adopt such a national policy prior to the war was responsible for our having to accept the humiliating position of being powerless to transport our army when the emergency arose and having to accept the shipping of other nations to accomplish this essential matter. Of course, unfavorable legislation affecting ship building is likewise responsi-

ble in large measure for this and until such legislation is repealed we question whether a ship subsidy can be adopted successfully, without perpetuating the unwholesome and unfavorable conditions of operation and construction now existing as a result of the legislation mentioned.

As a nation, it is my belief that the American people are not fully alive to the necessity for making provision for the transportation of their raw materials and finished product to foreign countries. We are not yet fully awakened to the necessity for developing our export trade without which it

is certain to result that our own markets will be prejudicially affected. Assuredly, we cannot expect in this country efficient service in shipping provided for us by nations with which we are in competition. Their interest would be, of course, to give preference to the trade of their own respective nationalities. In every way it would seem to me a foregone conclusion that American trade in foreign fields would be seriously hampered to the extent of the necessary reliance upon foreign bottoms for transportation of products of field and forest, of mine and factory in America.

With Fair Laws Could Operate Successfully

Written especially for AMERICAN INDUSTRIES

By **ROBERT DOLLAR**

President, The Dollar Steamship Lines

AS Congress will not change or modify the laws that drove the American Merchant Marine off the Ocean before the late European War, I am in favor of a subsidy. I claim, however, that if our laws and regulations were the same as our competitors, we would not require any assistance from our Government. This applies only to cargo ships engaged in the foreign trade. No foreign government gives subsidy or aid to their cargo steamers and they are able to operate successfully; for this reason I say that under the same conditions American shipowners could successfully operate American ships.

It may surprise your readers to know that until my company put three

American 10,000-ton cargo steamers in the foreign trade of the Pacific Ocean, running from the Pacific coast ports to the Orient and around the world, that there was not one privately owned American steamer engaged in this great Pacific Ocean trade. All the American ships engaged in this trade were owned by the Shipping Board.

I write on the question of subsidies without any bias, as with the restrictions proposed in the subsidy bill, I could not take advantage of it. A sharp distinction must be made, however, between cargo and fast mail steamers. They cannot, and are not operated by any nationality unless either subsidized or paid a large compensation for carrying the mails. Every nation assists their fast mail steamers in one way or another, and as all American steamers cost 20 to

30 per cent more to operate than those of other nationalities, it goes without saying that it would be impossible for them to compete without being subsidized.

The "Seamen's Act" or "La Follette Bill" as it is called, was so vicious and bad that several sections of it have never been enforced. The latest legislation is the joker put on the tail end of the tariff bill, which provides that all repairs made to American ships in foreign countries shall pay 50 per cent duty. As American prices are more than 50 per cent higher, it goes without saying that American ships are penalized 50 per cent over and above what their competitors have to pay. I only mention these two bills, as they are the very latest. There are many more but too numerous for this article.

NEED FOR A WISE SHIP SUBSIDY POLICY

Written especially for AMERICAN INDUSTRIES

By **LANDON C. BELL**

W. M. Ritter Lumber Company

ONE of the greatest needs of this great nation is an adequate merchant marine.

The comparison of tonnage carried in American bottoms now with that carried in American bottoms four decades ago, considering the population, wealth and commerce of the

The history is one of retrograde instead of progress.

A comparison of the volume of our foreign commerce, whether imports or exports, now currently carried by American ships with that carried by foreign ships shows a state of affairs not likely to excite our enthusiasm or give us pride in pointing to the facts.

The situation viewed from any angle, and in any point of comparison is one of which the country may be well ashamed, and over which our citizenship can hardly feel otherwise than deeply chagrined.

The important phases of the subject cannot be covered in a few brief paragraphs, but one fact is outstanding. Our ships will always be in competition with those of all the world in respect to our sea-borne trade.

Our standards of living and our wages are the highest in the world. American ship owners cannot pay wages high enough to maintain our standards, and earn a reasonable profit, if indeed any margin at all, under present laws and regulations, in competition with ships of other countries where standards are not so high, where wages are low, and legal restrictions more favorable.

No great country with far-flung sea coasts such as ours can prosper in peace or be secure and well cared for in war without an adequate merchant marine.

Under world conditions as they have existed for some time, and will

likely continue indefinitely, America cannot have such a merchant marine as she imperatively needs without a wisely conceived ship subsidy policy.

SHIP SUBSIDY BILL WILL MEET A CRISIS

Written especially for AMERICAN INDUSTRIES

By **JULES S. BACHE**

President, J. S. Bache & Co.

I AM cordially in favor of the Ship Subsidy bill because it takes care of a crisis and a complicated situation



Landon C. Bell

country at the two periods, cannot but produce the most painful reflections.



Jules S. Bache

which would be a source of irritation for years to come.

A Trade, Not A "Ship Subsidy"

Written especially for AMERICAN INDUSTRIES

By P. H. W. ROSS

President, The National Marine League

I AM glad to have this opportunity of expressing through the columns of AMERICAN INDUSTRIES my conviction of the absolute necessity of a Ship Subsidy if the distribution of American surplus products is to continue.

Surpluses affect the industrial body of a nation in exactly the same way as they affect the physical body of a man: unless eliminated or at least properly reduced they poison the body and enfeeble the energies of individual or nation alike.

It needs little imagination to realize that a huge unsold surplus of wheat carried over from one season to another will most seriously depreciate the selling price of the new crops coming along. The same thing applies to unsold surpluses of manufactured goods. If continued for a period of years the resultant effect will be that the business of production will no longer be worth while and producers will cease to produce.

Prior to 1914 no less than 85 per cent of our exports went to Europe and North America: only 15 per cent went to all the rest of the world. Everybody knows that the buying power of Europe is very badly shattered. When the vast fields of Russia and the Central plain of Europe are again restored to productivity the demand for American grain will be even less than it is now.

Consequently the position of America will be not unlike that of a storekeeper, 85 per cent of whose best customers have "gone broke" and are likely to stay "broke" an indefinite period. What, therefore, must the storekeeper do? Is he not compelled to use his most active endeavor to increase his trade with the remaining 15 per cent who are still relatively free to trade with him, and must he not also put his very best foot forward to obtain new customers in new directions?

If such be the case how is it possible for him to open up new markets and obtain new customers without developing his own distributive facilities?

His own, his own—there's the nub of the whole proposition. Manifestly it would be absurd if one department store proprietor, for instance, were to attempt to drum up orders by using the drivers and wagons of another department store.

A terribly blighting fallacy has seized the minds of many otherwise exceedingly astute men. It is this: They reason that if it is cheaper to



P. H. W. Ross

use the distributive facilities (that is the ships) of foreign countries than to use American ships, it is good business to do so. Such reasoning had considerable basis for acceptance prior to the great war when ours was a debtor nation and consequently a passive exporter of goods already sold to our creditor nations by reason of the fact of our previously existing indebtedness to them. No one has to run very hard after a landlord to whom he owes a month's rent. The landlord will call for the money and save any venturing forth upon the dangers and vicissitudes of the broad highway.

Under such conditions it was perfectly sensible to use your old customers' ships to transport goods wherewith you were paying your old bills.

But when you are not a debtor, but a creditor, and your object is to open up new connections with the same line of new customers to whom your foreign shipowning friend is also trying to sell his line of goods, you are up against a very different proposition. And this is the curse of the "Fixed Idea" in Ship Subsidy consideration as in every other realm of thought. The fixed idealist will not realize that that which was perfectly reasonable logic under certain conditions becomes perfect nonsense under other conditions.

Any one who has had the least experience in trading in new markets in foreign countries knows without being told that fifty per cent of your introductory difficulties in the opening of

new business vanish when those goods are introduced into a foreign port in the ship and by the personnel of the nation that is trying to penetrate into new and foreign fields.

There is no argument on this point. It is so.

Very well, let us admit that American ships are preferable as a business proposition; the next question is how are you going to run them?

The answer is obvious. What has been the one great guiding principle of American life since the Caucasian supplanted the Red Indian on this continent? The artificial "Pegging" of American living conditions at a level more agreeable, humane and comfortable for the American laborer, his wife and family than the general level of labor conditions in the rest of the world.

How was this done? By "Pegging" the price of American products. Again, how was this done? By imposing a tariff on the importation of foreign-made goods the wholesale admission of which might, if the price were much too low, so disorganize American industries as to make it impossible for American manufacturers to pay their labor the additional wage that was necessary to maintain their style of living at a higher level of comfort than prevailed in those other countries where the very cheap imported goods were made.

So much for protection to American labor engaged on land in the production of commodities.

Now we have arrived at that stage in our industrial development when the question of selling our products is even more important than that of producing them, because we have already solved many of the difficulties of production, but are relatively "green" in the knowledge of world distribution.

So, here we are, face to face with a new business in which we must use American world-distributive facilities, to wit, American ships, and we must operate them with American citizens. How is it possible to escape the fact that we must "Peg" American Sea Labor, engaged in the world-wide distribution and sale of American products on the same general, and cardinal principle that for years, as a cardinal policy of American settlement and civilization, we have "Pegged" American land labor engaged in the production of foodstuffs and commodities?

Again, how can we "Peg" American sea labor without a Ship Subsidy? It can not be done.

Do Not Sell Out On A Bear Market

Written especially for AMERICAN INDUSTRIES

By **FREDERICK L. CHAPMAN**

Editor and Owner, "Better Farming"

I FAVOR a ship subsidy, but not the ship subsidy which is now proposed. A subsidy is an assistance given by government to private interests engaged upon an adventurous enterprise the continuance of which will convey a benefit to the public. Great Britain, France and even poor Italy have subsidized steamship lines connecting the home land with distant ports carrying mails and unprofitable traffic, while developing trade in far away parts which in the immediate or distant future will be to the general profit. We may properly do the same.

The proposal, however, to dispose of our National Merchant Marine for a nominal price of \$200,000,000 less \$125,000,000 for its rehabilitation, less \$75,000,000 paid yearly by the government for ten years, less exemption from certain taxes during that period

can not be properly named a subsidy. It is a gift outright of more than half a billion dollars in net cash, plus whatever property value the ships now have.

I am opposed to this plan at the present time for the further reason that the low state of our foreign trade resulting in the lack of demand for shipping, has destroyed the present market value of this marine property. Our shrinkage in export of raw materials and food products during the first half of this year compared with the first half of 1921, is about \$934,000,000. For the same period the shrinkage in manufactured exports has been more than \$2,500,000,000. Stating the above shrinkage in tonnage, it has been 5,000,000 tons.

That is why I think this is an inopportune time to sell. I would rather wait until the country came to its better economic sense and realized that:

1. We cannot be a trading or ship-

ping nation unless we are willing to trade under fair terms with foreigners. The present tariff forbids that.

2. We cannot trade with foreigners until they become once more our friends. Our proud pose of isolation and indifference to human problems across the seas is not conducive to international friendship. We are beginning to appear even to ourselves in that attitude asinine and silly.

3. We cannot operate our ships by public or private control with profit under the restrictions of the present Seamen's Act. It should be rescinded.

Meanwhile we would better lease these ships to private operators under liberal terms or if that is impracticable, operate them even at the present loss of \$50,000,000 yearly, until we have laws and conditions more favorable to their sale.

I believe it will not require ten years to get them. Then, if we wish to sell, sell! It will be on a bull market.

Public Sentiment Versus A Subsidy

Written especially for AMERICAN INDUSTRIES

By **F. L. D. CARR**

Chairman, Water Commerce Bureau,
Tampa Board of Trade

Why a ship subsidy? You pay a Chinaman to wash your shirt because he can wash it cheaper than you can. You can do it if you want to; but because it will cost you more, why should you be subsidized for doing it?

NOT much sentiment in the above, you say, yet it is full of sentiment. Full of public sentiment, the one great American factor that stands to make or break our Merchant Marine. This article is from one of our daily papers, published in a seaport city, that reflects or thinks it does, the sentiment of its public.

If that is the sentiment of the public in a seaport city, what are we to expect from our agricultural friends of Iowa, Kansas, Nebraska or Oklahoma? Those centers, 2,000 miles from a seaport, leave but one conclusion, the people would not know the difference between a ship and a billet d'amour, and care less. To use the metaphor in the above, you would think our friends of the interior U. S. A. want to continue letting the Chinaman wash the shirts because he can do it cheaper.

If you think so, you are all wrong. Mr. Manufacturer of Ohio and Illinois; Mr. Tobacco Grower of Kentucky; Mr. Corn Grower of Iowa; Mr. Wheat Grower of Kansas, and Mr. Cotton Grower of Texas, are not among those who want John to wash their shirts because he can do it cheaper. Those gentlemen are the ones who now want to do their own washing. They have profited by the lessons taught by the World's War. They are smart men. Smart men, please remember, are those who profit by experience. They are the ones who first realized, that, if they are to continue having any shirts to wash, they must do the washing themselves. It may cost more to do it, but they will have control of the shirts while in the wash. In other words, knowing the protection the shirt affords, they prefer keeping it at home, under control, so that John can not divert the shirt to his own needs or gain, to meet his necessities.

Suppose it costs Mr. Grower more to wash his shirt than it would to let John do it. How does that concern you, Mr. Public? Let us think a minute and see if we (the public) are concerned. Suppose we refuse to help Mr. Grower meet the increased cost

and he continues letting John take home the work. John's laundry burns or he diverts the shirts to his own need. Mr. Grower suddenly appears among us shirtless. We feel embarrassed and inquire, "How come?" Mr. Grower replies, "You wouldn't help and John ran off with my shirt. Without the protection of a shirt, I can't market my wheat, or corn, or cotton as the case may be. Not being able to market it I won't produce any more. If I don't produce any more, what will you do?" The answer is easy. We will do without. When we do without, get out the soup kitchens and form the bread line. We will need more help than all the ship subsidies in the world would meet. Remember one thing, whether it pertains to preserving your shirts or taking out life insurance, it is better to do it than wish you had.

Let's look at it from another angle. Suppose we say, "Mr. Grower, while it is true it costs you more to wash your shirts than if you let John do it, we can't see how we can help you by subsidizing you." Mr. Grower replies, "All right, if you feel that way about it, it is a step in the right direction. If you can't help me, let's fix the matter so that the Chinaman can't

(Continued on page 26)

Great Ports Of The Nation—Boston

New England seaport, with most modern terminal equipment and closest European connections, awaits mainly the removal of its railroad rate shackles for a revival of tremendous commerce

Written especially for AMERICAN INDUSTRIES

By the HON. JAMES M. CURLEY
Mayor of Boston

GOD and Nature have made the spot whereon the Port of Boston was built an ideal location for the outgoing and incoming commerce of half a continent. The courage, enterprise and shrewdness of her industrial and commercial leaders, and the web-foot proclivities of the Yankee of former days, transformed the gifts of God and Nature into a port whose shipping made the name of Boston a household word in every seaport and trading post in the Seven Seas.

In time Boston grew in commercial and maritime importance until it was second only in the volume and value of its ships and cargoes to New York alone. Out of its commerce and the harvests of the seas came the wealth that was the foundation of the industrial activity that made Massachusetts one of the richest States in the Union. The fortunes made in industry were used for more industry and little of it went back into maritime ventures; and when the armed cruisers of the South in the days of Rebellion swept

New England's maritime marine off the ocean, little was done to renew and revive the ancient days, and the wealth



Mayor Curley

of industry was sent to develop the expanding West.

In the days following the Rebellion America was preoccupied with the great West; the gain and glory of her maritime days were forgotten; and the country was content to feed the world and let the fleets of Europe carry the products of our mills and the harvests of our fields to foreign markets and pay the enormous tribute such service called for.

It took a long time for America to realize that those who carry the goods to market soon control the markets and that the producer in time has to play second fiddle. Moreover the tremendous expansion of the West furnished a rich domestic market for American industry from which the alien manufacturer and his products were excluded by tariffs, until cheap labor and subsidized fleets of carriers, enabled them to jump the barriers the tariffs set up. Meantime industry increased by leaps and bounds until it caught up with and passed domestic consumption and we came at last to the pass where a nine months' industrial production sufficed for American



Boston's Port and Harbor Facilities

consumption, and surplus of the other three months meant one of two things—foreign markets to consume the surplus, or industrial idleness and unemployment during the three months.

Unemployment is a serious social and industrial problem in any place, at any time, for the devil is always at the elbow of the idle man; but in a democracy where all are the rulers and law and order are the fruits of moral training and loyalty to free institutions, and not the products of military force, unemployment and its corollaries,—hard times, physical suf-

fering, discontent and sullen demands on the Government, constitute a peril not to be lightly considered.

about which we were not specially versed. We had let the ocean prizes slip from our fingers and were waking to an appreciation of our folly and loss. America adventured into the not very successful experiment of a Government-owned Merchant Marine; and though we have it we have not been particularly fortunate in holding the markets the war threw into our hands. The American seems to lack the patience and persistence of European shipping and trading; and these qualities time must develop in the American manufacturer and ship owner if

upon the terms that all international commerce is done.

When the American manufacturer, trader and ship goes out into the alien world to buy and sell, they must forget Cranberry Center and meet their rivals on a level.

We have our ships and industries, we have a financial strength superior to any; the courage, tenacity and shrewdness of other days may be dormant but they are alive and must be waked to action; and if we fail we have only our own folly, provincialism and stupidity to blame.



Part of Boston's great Commonwealth piers, now controlled by the U. S. Shipping Board

Photo by U. S. Army Air Service

fering, discontent and sullen demands on the Government, constitute a peril not to be lightly considered.

The minds of men reverted at once to foreign markets for our industrial surpluses; but as our European competitors were already strongly entrenched in all the desirable foreign fields and not disposed to aid or comfort the American manufacturer whose products his shipping carried, the country waked up to the necessity of an American Merchant Marine and a stiff commercial battle for markets

they are to regain their old maritime supremacy where tariffs and fool marine laws are futile.

There is a great awakening on land and sea and a girding up of loins for a battle that must be fought on every sea and in every potential market all round the world. If we are to succeed—and we must go forward, or back, for we can't sit still—we must set our house in order, get rid of a lot of laws and practices absolutely useless beyond the three-mile limit and do business with our hands free and

What has the Port of Boston to offer to the new and eager America? What can she give to manufacturers and shippers that will spell success for industrial and commercial America? She still sits in her unsurpassed geographical position, nearer by a day and a half to the markets of Europe and the Atlantic and Pacific South American seaports. Her harbor is one of the best in America, deep, spacious, free from the perils of fog and ice all the year round, within an hour's steaming of the open sea; her anchor-

ages are safe, roomy and secure in all weathers; her docks and piers are numerous and commodious, equipped with the best modern appliances for loading and unloading cargoes with expedition and economy and are served by three railroad systems, the New York, New Haven & Hartford, the Boston & Maine, and the Boston & Albany—competent in management and ready through connections and traffic agreements to give through service to and from all parts of the continent west and north of New England.

form are the wharf sheds, 1638 and 924 feet long respectively; the former has a floor space of 1,651,000 square feet and the latter 580,000. Back of these pier sheds and connected with them by bridges are two storehouses of similar length with railroad tracks on both sides of them.

For the storage of wool, cotton, hides and other raw materials of import for use in the industrial hinterland of Boston the Army Base offers exceptional accommodations and advantages; and as a place for the assemblage of outgoing cargoes it has few

rooms, waiting rooms, and other facilities for passenger service. There are four depressed railroad tracks in the building that accommodate 160 cars and there is storage adjacent for 450 cars. This pier is in the heart of the wool district. Pier No. 6 is known as the Fish Pier used by the Boston Fish Market Corporation and is highly efficient.

The New York, New Haven & Hartford Railroad has three piers further up. Across the harbor in East Boston are the piers, docks and grain elevators of the Boston & Albany Rail-



Photo by U. S. Army Air Service

Boston's Commonwealth pier can accommodate five 600-foot ocean liners at once

The Army Base in South Boston, now under the control of the United States Shipping Board, has a frontage of 5,476 feet on the Main and Reserved Channels with a depth of 35 feet at mean low water. It can berth and handle ten steamers simultaneously. The landing platform extends for three-quarters of a mile along the Reserved Channel. It has two railroad tracks. There are sixty acres of floor space within its buildings and many acres in addition in open storage platforms, paved roadways and open tracks. Back of the landing plat-

equals and economically its facilities are desirable and practical.

Further up the Channel and adjacent to the Army Base are the splendid facilities of the Commonwealth Piers. Pier No. 5 has berthing space for five ocean steamships; its frontage on the Main Channel is 400 feet, with two slips each 1,200 feet long. It is a very modern structure being finished in 1913. It supports a two-story building of steel and concrete 1,167 by 360 feet, designed for both cargo and passenger traffic; and in connection with the latter are Customs examination

road, and midway between the two waterfronts are the Mystic wharves and elevators of the Boston & Maine.

These are merely some of the facilities that Boston has for overseas commerce.

Boston is par excellence the overseas passenger port of the Atlantic Coast, for passengers can be landed at the side of the steamer from any initial journeying point and returning go from liner to Pullman, thus avoiding all the annoyances, dangers, delays and disagreeable features incidental to all seaport water fronts.

Time is always a factor of value to the traveler and the saving of from 24 to 36 hours in the passage of the Atlantic, is an asset neither business nor pleasure can ignore.

The banking system of Boston is second to none in America and can, by its facilities and connections, take care of the finances of the commerce of a continent.

The development of lands in and around Boston Harbor and the dredging and filling in of flats, making them potentially useful for commercial and industrial purposes, is a Commonwealth policy that has great promise in it and is constantly in operation. In time it will provide sites for construction of utilities for the future this development promises for the Port of Boston.

Not the least of Boston's lures, and one outside of its commercial, industrial and financial activities, is the charm of the City itself, its scenic setting, its historic associations and its contiguity to a coast and mountain region of surpassing beauty. Here come the rest seekers and tourists of a continent and here the intending European traveler may spend pleasurable days in the summer season, in a fine climate touched by tonic ocean

breezes, if he elect to do so before beginning his transatlantic tour. He can find in and around Boston the best of hotel accommodations and his machine will travel over the best roads in America when he goes sightseeing. In the city itself the traveler and tourist will find attractions of every sort to occupy his time and attention profitably—historical, traditional, artistic, educational. The picturesque and the romantic, the practical and the prosaic, memories of the past, activities of the present, colleges, schools, art galleries, libraries, philanthropies—these are all here.

To return to the fundamentals, upon which the life, civilization and prosperity of all communities rest, the industry and commerce of Boston. Their revival now is dependent in a large measure upon the liberation from the railroad rates with which the commerce of the Port has been shackled by the Interstate Commerce Commission and the restoration of the Port to a condition of equality of economic opportunity with other Atlantic Coast seaports. When this comes, as come it will, Boston will resume her old place in the commerce of the world.

Boston also needs additions and reforms in her waterfront terminal sys-

tems, a greater flexibility and mobility at the point of contact of railroad and liner, that will bring more speed and smoothness in the delivery and reception of cargoes, that spell economy of time and money.

The installment of a lighterage system between the waterfront terminals of our railroad systems has been discussed and considered and must come to relieve congestion and secure celerity and economy. Take away the hampering obstacle of Interstate Commerce Commission rates and regulations and the other things will come. Reasonable State laws, the demands of an expanding commerce, and the enlightened self-interest of those engaged in the service of industry and commerce will produce results. Commerce is always seeking the lines of least resistance to function freely and profitably. This is axiomatic; and when artificial barriers are swept away the stream of commerce will flow through the channels that give it the service that connotes the greatest economy of time and expense and the highest measure of efficiency.

Unshackled Boston means just these things.

PUBLIC SENTIMENT VS. A SUBSIDY

(Continued from page 22)

come right into our own yard and do the work cheaper than we can. Let's raise the price of his tubs and taxes, his soap and subsistence, his leases and labor. Let's put him on an equal footing and see if his efforts will equal our efficiency."

Quite a sentiment after all, is there not? We can't get away from facts. If we want to wash a shirt or sail a ship, we must be prepared to do it better than the other fellow. It will take money to reach that stage of development but, it is not money wasted. It is an investment and will pay big returns. It will keep our ships, with our flag flying, sailing the seven seas, making markets for our products. It will be another case of the recollection of satisfactory service remaining, long after the cost is forgotten.

THREE MAIN REASONS FOR A SHIP SUBSIDY

Written especially for AMERICAN INDUSTRIES
By MATTHEW HALE

President, South Atlantic Export Company, and
member, Executive Committee, National
Merchant Marine Association

THREE all important reasons for government aid to the American Merchant Marine stand out irrespec-

tive of political partisanship or sectional interest: These are:

1. The national defense.
2. The expansion of foreign trade.
3. The most profitable salvaging of our largest remaining war asset.

These three objects promise to be accomplished at the least expense and to the greatest national advantage by the passage of the shipping bill now before Congress. Any one of the three reasons should be sufficient for the thoughtful American to give his support to the measure.

The national defense requires imperatively that the navy have at its command in times of stress a suitable fleet of auxiliaries, including every type of vessel from fast passenger liner to slow cargo carrier. It is wholly impractical and uneconomical for the navy to build and maintain such a fleet and keep it idle.

The United States is determined to maintain its foreign markets for its excess production. This applies as much to farm as to factory; as much to capital as to labor. America cannot hope to hold its own in international trade if dependent upon the foreign ocean carrier. It is only natural and right that he should foster the sale of his own home land's products and

goods and we cannot expect him to be our conscientious and capable drummer for world business. It follows in natural sequence that American goods for export, no matter what their character, must be carried in American ships if America is to benefit. Labor needs foreign markets, for its excess production must be consumed if work is to be provided the year round. With the creation of a properly balanced American merchant fleet the shipbuilding industry and the dozens and dozens of allied trades guarantee ample employment and prosperity for years to come.

The salvaging of the great war asset—the United States Shipping Board fleet—rests entirely on the fate of the shipping bill. Under present conditions these American built and American owned ships cannot be operated at a profit. They cannot be sold at anything like a fair price. With the shipping bill in operation there is a chance that at least world market prices for tonnage may be obtained for these ships and many millions saved to the nation.

These three reasons, in brief, should be all sufficient to cause a united demand from national business for the enactment of the pending shipping bill.

Open Forum for Readers

All letters to the Editor, intended for these columns, must be accompanied by the name of the author which however will not be used if the express stipulation is made. We wish to make it quite clear that the letters express individual views and not those of "American Industries."

UNEMPLOYMENT AND COMMUNISM

To the Editor of

AMERICAN INDUSTRIES:

The comments on my paper on Unemployment by Mr. Trautwine fail to point any fault either in the choice of my premises or in my line of reasoning. He simply ignores the force of my reasoning and substitutes for it an alleged argument for communism.

Since practically every government on the face of this globe grants a monopoly of currency issue to some men and actually assists them in impeding the issue of currency, and indeed has done so since time immemorial, my argument obviously applies to all lands and to past centuries. And moreover, my 'proposed formulation of laws that put the issue of currency on a competitive basis' is not claimed to be followed by "some amelioration," but by a radical cure of the social evils described.

His question why in all ages the covetous and crafty have seen to the establishment of conditions which further enrich a very few rich men at the expense of the rest of us is answered by him through frivolous assumptions and unreasonable logic.

He premises that man is naturally depraved, that our business system, unavoidably inherited from countless generations of barbarous ancestors, is the cause of our distress and that such a system breeds "smart Alecks as the cheese breeds maggots," to whom the public is the "easy mark." His reasoning is on a par with his metaphor; cheese does not breed maggots, they breed from flies' eggs.

The fact that we have the laws which I impugn on our statute books is explained by the fact that economics, as taught at our colleges, is now in a condition comparable with the state of the science of chemistry at the time of the Alchemists. The people remain in ignorance of the nature of money and fail to realize that our currency laws are unjust, in legalizing the exploitation of wealth producers.

My critic attributes unemployment

to the meanest impulses of the covetous and crafty, whose slogan is "Every man for himself and the devil take the hindmost." Compare this with my attempt to trace it to prevailing misconceptions of the nature of money and not to the alleged wiles of dishonest business men.

As an opponent of private property, he conceives the ideal condition of society to be one in which producers of wealth shall not be allowed to enjoy the fruits of their labor, but shall accept for their work a stipend determined by—he does not say whom. Surely, everybody cannot be allowed to help himself at pleasure to the productions of everybody else after offering his products to the command of others. What plan for the distribution of wealth among producers has he to offer?

Mr. Trautwine admits that "In Russia the attempt was made to force a travesty (?) of the modern system (communism?)" without explaining the difference of the Russian experiment from his ideal of the state of society. Does he assume that the self interest of the individual is gradually disappearing? I would not want to live in such a stagnant community.

My critic starts from the premise that successful men attain success by the crafty use of their predatory instincts, and then reasons that their success is the cause of unemployment and that some form of communism is the remedy. His premises are not acceptable and his conclusions do not logically follow from those premises.

HUGO BILGRAM.

Philadelphia, November 2.

IMMIGRATION AND LABOR

To the Editor of

AMERICAN INDUSTRIES:

There is to-day a growing labor shortage. This is caused by two things—by the practices of the closed shop labor unions so far as skilled workers are concerned, and by our three per cent immigration law in the unskilled labor field.

The open shop movement is stead-

ily gaining strength and, though only by a slow process, the proportion of skilled workers in the country will become reasonably large.

The President of the American Federation of Labor says his organization will support in the next Congress a law reducing to two per cent the number of aliens who may enter, thus making a still further shortage of workers. What will the employing interests do about it? Our aim is not, despite the belief of the professional performer to secure workers at a starvation wage but at a wage which will mean that we could sell to the public at prices that we favor.

I believe the war revealed the old immigration policies to be a menace. They admitted to our shores too many persons of Communistic and Bolshevik tendencies, or who were easily influenced by the specious pleas of the agitator. The very life of America was menaced. As between the maintenance of the present immigration laws and their abolition with practically no restriction at all I certainly believe that the country as a whole would be far better off with the present laws continued. There should, however, be an intermediate stage which would permit a sufficient number of unskilled workers to enter the country and at the same time operate to keep out the vast horde of those having radical and anti-government ideas who would desire to enter.

The National Association of Manufacturers should do more than simply say that it favors the enactment of such a law. It could do no greater service to-day to American industries than to prepare and have presented to Congress a comprehensive law which would do just this thing—keep out the agitator and his victim and yet, by a discriminating selection, permit other unskilled workers to come to this land of opportunity.

Yours very truly,

PETER GRAY.

New York, October 16.

THE AUTOMOBILE CONGESTION

To the Editor,

AMERICAN INDUSTRIES:

What are we going to do when our great cities have reached the saturation point of automobiles. Traffic regulations cannot meet the growing demands for the safety of the pedestrian public. We are being menaced more and more by the almost universal use of the automobile, for it is doubtful if there are three persons out of ten in this country who neither have an automobile nor the use of one owned by some of their friends.

C. T. JONES.

New York, November 7.

AMERICAN INDUSTRIES

D. M. EDWARDS, EDITOR AND MANAGER

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A WORD OF APPRECIATION

WITH this issue AMERICAN INDUSTRIES presents an interesting symposium on one of the most important matters of legislation before the national Congress—the Ship Subsidy Bill. The symposium is composed of the views expressed by leaders in industry, trade, transportation, finance and general business in all sections of the country—from Maine to Louisiana and from the Atlantic to the Pacific.

Coming at the time they do, these thoughts will be appreciated by all who are concerned in the upbuilding of an American Merchant Marine, as they reflect the opinions of prominent business men in the various sections of the country.

In composite, they favor the granting of a ship subsidy because it is the general consensus that if other nations have built great and successful merchant marines by giving some sort of government support, the United States must, in the end, do likewise. Some of the contributors believe in an un-

qualified subsidy; others believe that the subsidy should be guarded by restrictions which will insure successful operation; others are flatly opposed. AMERICAN INDUSTRIES asked for the frank opinions of scores of men in industry, finance and business, whether they favored a subsidy or not, and all of the discussions received are here printed in full.

We wish to express our sincere appreciation of the courtesy and consideration shown us by all of those who have so generously given of their time to prepare their views for publication in this issue.

CHRISTMAS AND BUSINESS

CHRISTMAS presents are coming in from all directions for the industries of the United States, even though we are besieged on every hand by supposed ill-effects of taxation, immigration, tariff and the rest.

Our Department of Commerce tells us, not only that the exports of merchandise to Europe during October rose to the highest level since March, 1921, amounting to \$372,000,000; that this was an increase of \$59,000,000 over September and \$29,000,000 more than the shipments in October, 1921, but also that the \$7,000,000 German toy importation business of pre-war days has completely collapsed and in its place American manufacturers have built a new and huge industry.

Figures of pre-Christmas toy business given out by the Department contradict the statements from Germany that the toy business over there is booming. These figures show four outstanding features:

1. The importation of German toys this year will be negligible.
2. The high cost of manufacturing in Germany will permit American toy manufacturers to export some of their products. This is a reality undreamed of in the days before the war.
3. The situation will result in an extreme change of toy styles, American dealers offering radio outfits, construction sets and educational sets in the place of the old-time tin soldier and the rag doll.
4. The German toy imports were virtually eliminated by the war, but the 70 per cent *ad valorem* tax fixed

by the McCumber tariff bill and the scarcity of raw materials in Germany have added the finishing blow.

The reports of the Department show that American orders in Germany have recently been cancelled in enormous lots, and Germany has lost the advantage that it held in 1921—when \$4,861,000 worth of Christmas toys were imported.

The German doll center at Thuringia, the Santa Claus shop for mechanical and metal toys in Bavaria and the wooden and paper mache toy mecca in Saxony have suffered severely. More than half the production of these centers formerly was exported, but the manufacturers can no longer meet American prices.

American manufacturers who saw possibilities of the war and were encouraged when German prices were quoted 500 to 600 per cent higher than last spring, are fully capable of supplying the new demand and welcome the transformation from a German to an American Santa Claus.

A LABOR INVESTIGATION

BELIEVING that the time is appropriate for a clearing of the air on many industrial and radical tendencies so noticeable throughout the country, William H. Barr, president of the National Founders' Associations, in his annual report to the organization, suggests that Congress have an unbiased investigation of labor unions. He declares that the treatment of employes should be such as to inspire "that pride in the job which the labor unions have almost completely destroyed."

Among the questions which he says should be asked of the labor unions are:

What value are they to the members?

Who are the chief beneficiaries of unionism?

Why are all union-controlled commodities more expensive?

What rules of efficiency, if any, govern membership in the trade union?

Why is the training of apprentices limited?

How are strike votes taken and what is the average percentage of the membership voting?

GREAT PORTS OF THE NATION

In this issue of AMERICAN INDUSTRIES we present the sixth article on the Great Ports of the Nation, a series which has attracted wide attention because of the informative and business-like manner in which these articles portray the shipping and industrial advantages of the various ports.

The present article is written by the Hon. James M. Curley, Mayor of Boston, and commends itself to a thorough perusal by every manufacturer and shipper.

The ports previously covered in this series are:

New York, by N. B. Kastl.

New Orleans, by Walter Park-
er, General Manager, New Orleans Association of Commerce.

Philadelphia, by George F. Sproule, Director, Department of Wharves, Docks and Ferries.

Seattle, by Harold Crary, Assistant Secretary, Seattle Chamber of Commerce.

Who counts the votes and where?

What is the total income of the international unions in America for the last year?

How is it spent?

Why is one man permitted to determine why fifty or one hundred thousand mechanics willing to work under fair conditions may not do so?

Why is the incorporation of unions and correlative financial responsibility not made compulsory?

Why is it that when the railroad brotherhoods elected that the word "violence" be included in a given contract that "assault and battery" is not regarded by them as a form of violence?

Why is it that the murder of sixty men by union members and sympathizers in the State of Illinois evokes no voice of protest and no question as to why the murders were committed?

Why should the unions not clearly define their opposition to every form of public police protection?

Why union members are required under oath to place their union sympathies above their obligations as citizens?

THE IMMIGRATION PROBLEM

MAKING one more prominent industrial leader in the ranks of those who believe the immigration must be brought up and disposed of in a practical manner by the next Congress, John R. Howard, president of the American Farm Bureau Federation, told the members of the New York State Farm Bureau Federation at their annual meeting, that immigration restriction was affecting the prosperity of the entire country, and particularly of the farmer.

Mr. Howard pointed out that the present law was limiting the amount of manual labor in the country and one of its natural and inevitable results was a shifting of labor from the country to the city, presenting a tremendous handicap to the farmer in production.

Another phase of the question mentioned by Mr. Howard was that the restrictive law forced prospective immigrants to seek other shores and become natural competitors of American farmers, adding still more to the depression they had been fighting for three years.

It is a big problem for Congress, Mr. Howard stated, and revision of the present law undoubtedly is needed. He said he was not in favor of admitting immigrants indiscriminately, nor in favor of the educational test, but in favor of letting in all good, honest persons who really want to be citizens.

It is the hard-working, honest person who can be absorbed best in the citizenship of the country, he declared.

HIGH COST OF TAXES

ONE of the many points being considered by those who are endeavoring to cause an early and much-needed revision in the fundamentals of Federal tax legislation is that of reducing to a minimum the cost of tax law administration and collections.

It has been estimated by competent authority that owing largely to faulty and complicated construction of Federal tax laws, it costs taxpayers in the United States no less than \$150,000,000 annually, to comply with the laws, exclusive of taxes paid, and 10 per cent of the total taxes collected for administration of the laws. Adding to the costs of the taxpayers the \$56,-

000,000 appropriated in 1922 for the internal revenue service, the total tax law costs annually to the government and the people is about \$200,000,000.

INDUSTRY FAVORED

SEVERAL referendum proposals acted on by voters in the State elections November 7th, in which industry had a vital interest, resulted in votes favorable to the attitude of industrial organizations.

South Dakota voters rejected a proposition sponsored by organized labor and radicals that the State engage in the banking business.

Michigan voters rejected a State income tax proposal.

Single tax proposals were voted down in California and Oregon.

Washington voters repealed the poll tax.

Oregon voters rejected an income tax proposition.

California voters rejected by a vote of more than 2 to 1, an ambitious public ownership plan by which the State was to undertake the development of all its hydro-electric and water resources, issuing bonds up to \$500,000,000 as needed for the work.

ANNOUNCEMENT

AMERICAN INDUSTRIES is published for the benefit and information of the manufacturers of the country. It will be pleased to receive from its readers information on subjects that will be of interest to other manufacturers.

In one department it carries notices on:

Changes in organization.

Changes in personnel.

New devices that advance manufacturing.

New shop practices.

Discussions on shop management or direction.

New shop organizations that are producing better results for the employer or the employee.

It maintains an Open Forum which is available to its readers for discussion, criticism or argument on any subject that will be of interest to the manufacturers in general.

Romances Of Industry—Slate

From its early use for roofing the administration offices of William Penn in Philadelphia in 1700, this stone has developed for innumerable uses because of its adaptability and durability

Written especially for AMERICAN INDUSTRIES

By W. S. HAYS,
Secretary, National Slate Association

WHEN we think of slate, we generally picture it in connection with the roof protecting buildings from the elements, or possibly the slate of our school days; but no other natural stone has so many varied uses. A study of the slate industry brings out one of the most interesting romances of industry. No industry has suffered more from the ups and downs or progressed as slowly in spite of the natural merits of its products and the normal expansion of the business of the country.

An exhaustive study of the stone quarrying industries made by the Bureau of Mines and U. S. Geological Survey, has been responsible in a large measure for making available to the public, through the published reports of Dr. Oliver Bowles, T. Nelson Dale, and G. F. Loughlin, the superior service rendered by slate for the many purposes for which nature has endowed it. Incidentally, these studies have promoted a better feeling through interchange of ideas of the producers, on quarrying methods, economies in manufacture and uses. With the gradual return of the demand for slate, now much in evidence, there is apparently a marked recognition of its durability and practicabilities for structural purposes, its ultimate economy as compared with roofing materials that have to be repaired and replaced, its advantage and economy for electric switchboards and blackboards, and other varied uses. In the following paragraphs, several extracts are taken from Dr. Oliver Bowles' latest writing, "The Technology of Slate," issued by the United States Bureau of Mines. The term "slate" is applied

to fine-grained rock that has a more or less perfect cleavage, permitting it to be readily split into thin, smooth sheets. The term includes materials differing widely in color and having a considerable range in chemical and mineralogical composition. Nature has selected and assorted the materials of slate more carefully than man can choose the constituents of any artificial product, and no hydraulic pressure humanly devised can approximate the mountain building forces that compressed slate into its dense compact form. Real slate with its superior quality, low price, durability and attractiveness grows in popularity with increasing use. While slate originated from clay, the intense pressure and high temperature have completely altered it into quartz, mica and chlorite, three of the most stable, insoluble and permanent of all minerals. As it consists of such weather-resisting natural minerals, slate is one of the most enduring structural materials the world has ever known. Mica slates constitute the chief supply of commercial slates mined in the United States.

The more common colors in slates are gray, bluish gray, and black. The reds, various shades of green and variegated slates are less common,

and purple is rare. Chemical and mineralogical composition determine the color of a slate, the colors other than gray and bluish gray being due chiefly to the presence of iron compounds and carbonaceous material. Slates containing considerable proportions of finely divided carbonaceous matter are black. Regarding the more brightly colored slates, Mr. Dale has pointed out that the percentage of ferric oxide, in the colored slates, steadily increases from the variegated to the purple and to the red, whereas the proportion of ferrous oxide, markedly decreases in passing from the unfading green to the variegated, seagreen, bright green, purple and red. He attributes this decrease to the smaller amount of chlorite present in the latter varieties.

Color is of great economic importance. Some colors are much more in demand than others, the preference being based more on tradition than on artistic taste or actual qualities of the slates. A wider market for colors not now in demand depends therefore on the cultivation of public taste. Architects, builders and roofers can widen the field of utilization of roofing slate by judicious efforts to popularize new colors or combinations of colors. In recent years the moderate uniform

fading of slate, commonly referred to as "weathering," has been much in demand by architects, as have graduated thicknesses.

According to all published records, the first known use of slate by man dates back to about 600 B. C., when it was employed for lining ancient graves in Great Britain. The date of burial was based upon coins and utensils found in



As the slate comes from the quarry



Much primary work must be done by hand, as it has been done for generations

the graves. When scientists unearthed these graves, the slate slabs were still in good condition.

Slate was used for roofing purposes early in the sixth century in France. In the eighth century, a Saxon Chapel at Bradford-on-Avon, England, was erected and roofed with slate, and is still in good serviceable condition. The first recorded use of slate in this country was in the year 1700, when it was used to roof the building in Philadelphia which served as the seat of Government for William Penn's domain. The building was torn down in 1867: otherwise the original slate roof would probably be giving service as good as ever to-day, in addition to its 167 years. There are numerous buildings in and around Boston, Washington and Baltimore, erected from 1700 to 1800 that are covered to this day with their original slate roofs—upward of 200 years of service. Buying a slate roof is a life-time investment, as many new buildings each year are covered by the slate salvaged from old buildings demolished to make way for the new ones. In fact one example is recorded of a slate roof covering the seventh successive building after 176 years of use on the first six.

One of the earliest references in literature to slate quarries is the mention of the Penrhyn quarries by a Welsh poet in 1570. The physical characteristics of the slate of Cornwall were described by Carew in 1602.

Probably the oldest slate quarry in the United States is in the Peach Bottom district on the Pennsylvania-Maryland line, from which slate was

State	Operators	Roofing	Other Uses	Total Value
Maine	3	\$47,916	\$361,387	\$409,303
New York	15	59,106	457,850	516,956
Pennsylvania	47	1,565,109	2,030,277	3,595,386
Vermont	32	1,286,529	1,060,449	2,346,978
Virginia	4	212,943	212,943
*Undistributed	5	26,142	214,298	240,440
	106	\$3,197,745	\$4,124,261	\$7,322,006

taken in 1734. In Virginia the first quarry was opened to provide slate for the roof of the state capitol about 1787. According to Shearer, slate was first quarried in Georgia in 1850. From these early beginnings, slate quarrying spread and became an established industry. It is generally admitted that slate quarrying in America was really established by Welsh slate workers. Davis refers to the fact that not long before 1877, 150 skilled slate workers went from the Bethesda district to work in American quarries. However, Welsh workers were employed long prior to that, practically at the beginning of the industry, for a number of places in the slate region, as Pen Argyl and Bangor, were named after Welsh towns.

As may be observed from the following table, the industry for ten years prior to 1917 was practically stationary, and during the war its non-essential status, except for electrical switchboards, caused a decided decrease of output. The figures show the very great growth in the use of slate for other things beside roofing, and that in fifteen years roofing material has fallen off \$1,500,000 while slate used for other purposes has increased nearly \$3,000,000.

	Roofing Slate	Other Uses	Total
Year	Value	Value	Value
1907	\$4,817,769	\$1,201,451	\$6,019,220
1908	5,186,167	1,130,650	6,316,817
1909	4,394,597	1,046,821	5,441,418
1910	4,844,664	1,392,095	6,236,759
1911	4,348,571	1,379,448	5,728,019
1912	4,636,185	1,407,133	6,043,318
1913	4,461,062	1,714,414	6,175,476
1914	4,160,832	1,545,955	5,706,787
1915	3,746,334	1,212,581	4,958,915
1916	3,408,934	1,929,903	5,338,837
1917	3,411,740	2,338,226	5,749,966
1918	2,219,131	2,621,989	4,841,120
1919	3,085,957	2,944,691	6,030,648
1920	3,524,658	5,201,784	8,726,442
1921	3,197,745	4,124,261	7,322,006

The following is a distribution of the 1921 totals by states:

*Undistributed includes Georgia, Maryland, New Jersey and Tennessee. Postwar recovery is now evident, and the working of such beds results in be done to supply the needs resulting from restricted construction during the war offers fair prospects of a more rapid growth. As slate is a superior roofing and structural material, the



Much tedious chipping to be done

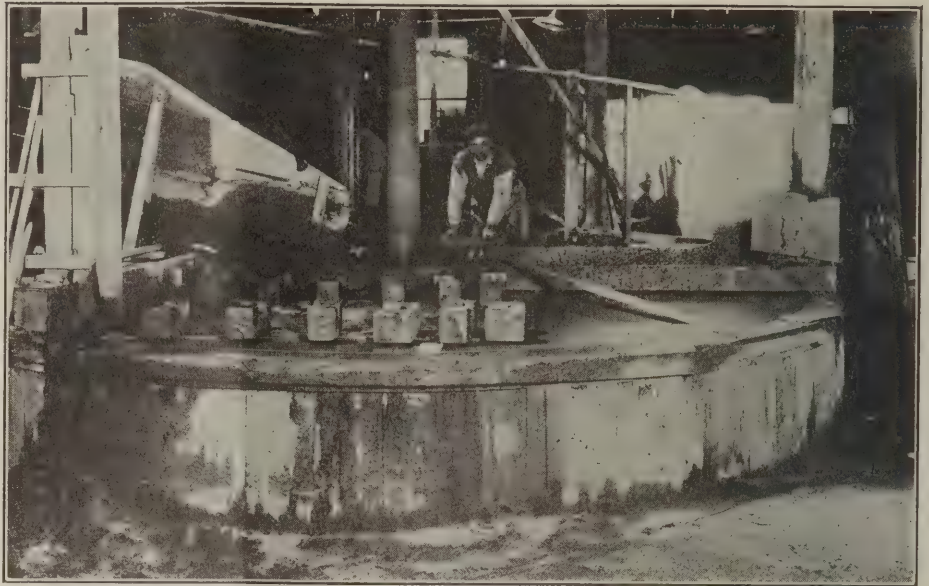
reasons for the slow growth of the industry require some explanation. High-grade slate usually occurs in

narrow beds inclined at steep angles and the working of such beds results in deep quarries. Commonly slate quarries are over 400 feet deep, and such deep quarrying is more expensive than the working of comparatively shallow pits. In order to obtain sound blocks of slate, slow and careful methods are used, which involve a great deal of hand labor and are costly.

In quarrying comparatively narrow inclined beds, much adjacent barren material must be removed. Moreover, imperfections in the slate require the removal of considerable waste from the slate bed. In many quarries, particularly where blasting is employed, methods are very wasteful, though the introduction of channeling machines has somewhat lessened waste from this cause. A total waste of 75 to 90 per cent of the gross production is common, however, and as the cost of removing waste must be added to the cost of the finished product, the selling price must be raised to a point that makes competition with other materials more difficult.

Various forms of composition roofing have encroached on the field formerly occupied by slate. This has not been due primarily to superior qualities of the substitute materials, many of them being far inferior to average slate in attractiveness, fire resistance, and permanence, but to their low cost.

Active slate quarrying is confined in America to the States of Maine, Maryland, New York, Pennsylvania, Vermont, Georgia, Tennessee and Virginia. Nearly fifty per cent of the production comes from the Lehigh district of Pennsylvania, including parts of Northampton and Lehigh counties. The Peach Bottom district, which extends from York and Lancaster counties across the line into

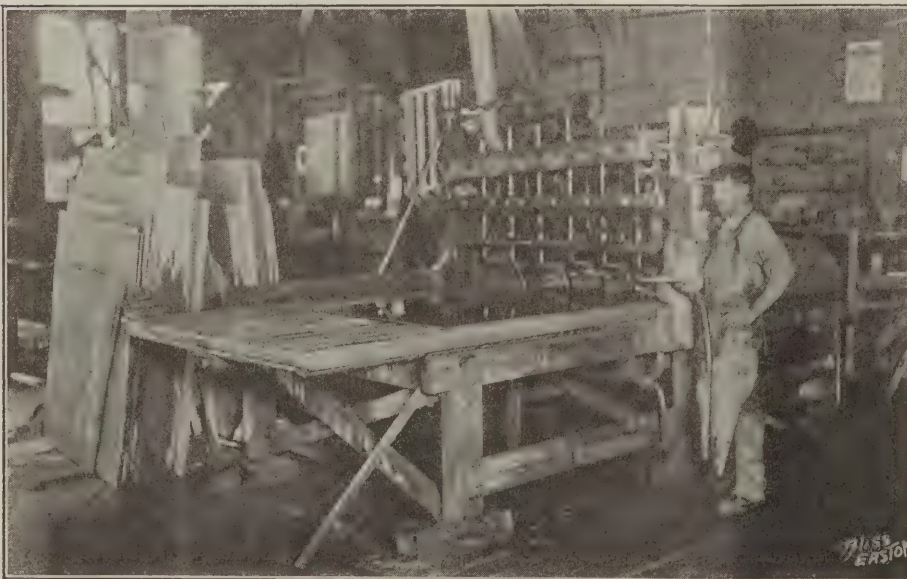


Grinding down the big slabs

Hartford County, Md., has produced considerable slate. The active Vermont district lies in Bennington and Rutland counties, and extends into Washington County, New York. The Maine slate deposits occur in Piscataquis County about the center of the state. Slate occurs in several distinct deposits in Virginia, but operations are now conducted only on the Arvonis belt of Buckingham and Fluvanna Counties. A number of other deposits have been worked in the past and may be worked again, but are now idle; others have not yet been developed. In Canada slate has been quarried chiefly in Richmond County, Quebec, though some slate has been produced in Nova Scotia and in British Columbia. Slates have been obtained from the shores of the Bay of Islands and Trinity Bay, Newfoundland.

The plan of quarrying is the open pit method, although in Maine the underground method of tunnels and shafts is being operated. Failure to observe the menace of steep open joints, or inability to secure operations against disaster, has resulted in a number of quarries being closed because of rock slides. Lack of capital has been the chief excuse given for improper quarry planning. But with the revival of the demand and interchange of ideas through the Bureau of Mines reports, and the Committee on Better Production Methods of the National Slate Association, of which Dr. Bowles is a member, better quarry planning is gradually being developed.

Stripping is the process of removing the overburden of soil on the rock surface. The extent of the stripping required depends greatly on the method of quarrying. Some deep quarries on nearly vertical veins have been worked constantly for forty or fifty years without enlarging the original opening, and thus have had no stripping problems since they were opened. Generally, however, even in districts where deep quarrying is done, the development of new deposits or enlargement of present quarries demands removal of overlying soil. In districts where slate is taken from wide and shallow pits, stripping becomes more important and may constitute a considerable share of the quarry expense. Clay, sand and gravel, with broken and decayed rock are the common overburden constituents. In a few slate areas the rock is bare and no stripping is required, but in most regions there is more or less overburden, its thickness in different places varying from a few inches to forty or fifty feet. Although the term "overburden" properly applies only to the covering of soil, the



Polishing off is a modern process

upper part of the rock, decayed by water action or shattered by frosts, is closely related to it in that it also consists of a waste material that must be removed. Where this is loose and incoherent it is naturally classed with stripping, but where relatively firm it is removed by regular quarry processes.

Compressed-air hammer drills of the non-reciprocating, automatic rotation, hollow steel type are the most popular and are widely used. In a few quarries, where no air compressor has been provided, steam tripod drills are used. Small drills struck with hand hammers have been seen, but fortunately, such primitive methods have disappeared from most quarries. The excessive cost of hand drilling is so well known as to require no comment. Churn drills are used occasionally where there is a depth of twenty to fifty feet of waste rock that requires heavy blasting for its removal. Wedges of the plug and feather type driven into shallow drill holes are commonly used for making cross fractures.

Channeling machines are now common, particularly in the Pennsylvania slate belt, and their introduction has marked a very great advance. The early method of blasting with black powder not only produced an excessive amount of shattered rock waste material, but the slate blocks obtained were usually angular and irregular. The channeling machine gives a smooth surface, does not shatter the rock, and provides a ready means of obtaining regular rectangular blocks. The machines may be run by steam or by compressed air; the latter is preferable particularly in deep pits or in underground workings. The bar channeler which was first introduced in slate quarries about 1887 consisted of a bar about twelve feet long supported by four iron legs. Drills were mounted on this bar, and by mounting the drills to different positions on the bar, closely spaced holes were projected in line. By broaching out the intervening rock, a channel was formed. The process was so slow that it was not widely used. About ten years later the truck channeler was designed. This is the modern type of channeling machine which travels back and forth on a track and cuts out a channel much more rapidly than the primitive bar machines. One slate producer in the Slatington District of Pennsylvania is experimenting with the use of a wire saw.

Wooden derricks and compressed air hoisting engines are used in the Monson, Me. district, but in practically all other districts overhead cableway hoists are used. For large pits three to six parallel cableways are com-

monly required in order to serve properly all parts of the excavation. Supplementary derricks are used at some quarries for hoisting from the pit or for yard service.

The need of some useful outlet for waste slate has been felt for many years. Waste utilization is therefore a matter of very great importance to the slate industry. Due to the Bureau of Mines investigation, some progress has been made in waste utilization in this country. Slate waste may be used for certain purposes in its massive form. Thus small rectangles cut from waste pieces are used for the manufacture of inlaid slate and other forms of flat slate flooring and roofing, and larger masses may be used for flagging, for fence posts, or for wall rock. The most promising use, however, is in pulverized slate. Many products such as paper, rubber, road asphalt, floor coverings, and paints, require as one of their important constituents a considerable percentage of finely pulverized inert mineral matter to give "body" to obtain the desired consistency, or to supply the necessary wearing or other qualities demanded. Such materials are known as "fillers."

As slate presents an exceptionally satisfactory surface for painting, the use of waste slabs for sign boards merits consideration. So great has the market developed for slate granules or slate flour for fillers that some old quarries abandoned have been opened solely for the production of granules and slate flour. Following the procedure of the packing industry, where everything of the pig is utilized but the squeal, the ideal development of the slate industry will be the complete utilization of the slate from the most economical point of view; in the large sizes, for electrical, roofing, and structural purposes, walks and floors; in the smaller sizes for roof and floor tile, school slates, for advertising signs, in window displays, menu announcements in front of restaurants, fuse blocks, switch bases; then the waste from the production of these products should be ground into granules and slate flour for their varied uses.

The United States exported \$101,-

630 worth of roofing slate in 1921—\$53,505 worth of electrical, \$52,598 worth of blackboards, \$35,686 worth of billiard tables, of which \$31,882 was shipped to Canada. The largest export business of slate comes in school slates, running \$201,383, which is nearly four times the amount of slate used in the United States. However, there is a growing demand for school slates as permanent surfaces for advertising cards in window displays and other uses as previously described. One of the noteworthy achievements of the slate producers of the Pennsylvania district which produces, as shown in the table, nearly 95 % of the structural and interior slate of the country, has been a program of simplification of varieties, sizes and thicknesses carried on for several years through the Structural Service Bureau.

The slate quarrymen realize more and more that much of the success of their business, especially in structural slate, lies in the standardization of the sizes of the products. The method of procedure usually followed has been to quarry and prepare structural slate in sizes specified by builders and architects. The lack of uniformity in design or size prevents the production of material in advance. This condition has led to enforced unemployment in mills and quarries and in serious delays to builders, as the slate quarries cannot always produce stock at the time orders are received. To improve these conditions, several producers of structural slate in the Pennsylvania district have, through the Structural Service Bureau, proposed standard specifications for structural slate products and have issued illustrated pamphlets showing sizes and shapes of standard parts for structural work. It is hoped that the acceptance of these specifications by associations of architects and builders will aid materially in stabilizing the slate industry.

According to *Slate in 1921*, published by the United States Geological Survey, the following are the major uses of slate classified according to amount of sales:

Use	Percentage of increase or decrease		
	1920	1921	
Roofing	\$3,524,658	\$3,197,745	— 9.3
Electrical	1,491,769	927,951	— 37.8
Structural and Sanitary.....	916,216	642,532	— 29.9
Grave Vaults and Covers.....	130,795	121,967	— 6.7
Blackboards and Bulletin Boards....	385,480	791,241	+105.3
Billiard Table Tops.....	140,032	179,862	+ 28.4
School Slates	82,989	56,170	— 32.3
Granules	2,044,942	1,397,886	— 31.6
Other Uses	9,561	6,652	
Total	\$8,726,442	\$7,322,006	— 16.1

Evolution of the Labor Movement

Astonishing development of the power of the trade union organizations—their aggressive attitude toward owners, non-union workers and various courts—other phases of their activities

By EVERETT P. WHEELER

Former President, New York Civil Service Reform Association

(Prepared from the New York Times Current History of August and September)

THE evolution of the labor movement during the last thirty years has been conditioned by many causes, one of the chief of which is ethical. Before this period, throughout the civilized world, there had been a quickening of the Christian spirit of consideration for the needs and sufferings of others. Macaulay, in the famous third chapter of his History of England, describes in graphic language the great change in public sentiment in England from the hardness and cruelty prevalent at the end of the seventeenth century to the humanity of the Victorian era.

Contemporaneously with this quickening of religious and philanthropic sentiment, there came a change in the economic world and in the conception of economic principles. Before the invention of the steam engine, of the dynamo and of the myriad types of machinery which these inventions made possible, the business of manufacturing was conducted on a small scale. One mechanic did almost as many kinds of work as a farmer does. It was quite possible, as Abram S. Hewitt said in his lifetime (referring to a period as recent as 1860) for a manufacturer to know, personally, every person in his employ. All this made the labor of each workman more interesting, and introduced more friendly relations between employer and employed. Years passed; inventions multiplied. The cost of living and the cost of production were reduced. On the other hand, the standard of living rose not only for the rich, but for the plain people. Their houses became more comfortable, their clothing more varied. The comfort of living of the average man and woman greatly increased during the last century.

While this increase proceeded, the experience of manufacturers showed that there were many advantages in combination, and that manufacturing on a large scale could be done more advantageously. One disadvantage of the change was the separation between the heads of the great companies and their employees.

Attempts have been made by legis-

lation to prevent the extension of these great combinations. Monopolies were illegal by the common law of England, which became the common law of this country. In 1890 this law was made more comprehensive and was put into the form of a statute by the act of Congress known as the Sherman act. Penalties were provided for its enforcement.

Meanwhile, however, the same spirit of combination developed among the workmen. Their trade unions became more numerous and powerful, both in England and America. In the beginning the endeavor of each of these unions was to increase wages and diminish the hours of labor in its own particular sphere. But the separate unions also discovered the advantage of combinations, and some of them became national.

The spirit which has thus developed in the various activities of employers and employed has naturally found expression in statutes. The labor legislation which has been enacted by the Congress of the United States and the Legislatures of the forty-eight States is too varied and extensive to be stated in full within the compass of this article. I can give only a few characteristic examples. In this brief summary, let it be remembered that "when a statute has been settled by judicial construction, the construction becomes as much a part of the statute as the text itself." (Douglass *vs.* County of Pine, 101 U. S., 667). That is the American constitutional system.

A point made in the discussion of arbitration in industrial disputes is that a plan limiting strikes infringes the right to strike, which the Federation of Labor claims is absolute. We reply that the plans under consideration contemplate a contract freely made between the employer and the employee. Nobody is obliged to become a motorman or a conductor, or to engage in making or distributing food, clothing or fuel. When he enters the service he becomes a public employe voluntarily. This is why he is not a slave. The slave did not enter the service voluntarily. "The free-man owns himself," says Mr. Gom-

pers. Yes, but he owes a duty to God and to the State. It is a part of his duty to keep his contract. There is no real freedom on any other terms.

A law compelling men to keep their contract does not reduce them to involuntary servitude. If irreparable injury should be caused by its violation, the court can enjoin such violation. In the case of seamen, the United States Supreme Court held that an act compelling a seaman who has deserted to return to his ship does not reduce him to involuntary servitude. This is put on the ground that he voluntarily entered the service. The court said (Robertson *vs.* Baldwin, 165 U. S., 281): "A service which was knowingly and willingly entered into could not be called involuntary."

It is important to notice that when workmen quit their employment they do it in obedience to "orders." These orders are peremptory. Any restraint exercised by statute would be a restraint upon the leaders, prohibiting them from giving orders to the men to strike. These leaders are not workmen. They draw their salaries from the union treasury. It is not involuntary servitude to prevent them from interfering with the public service. It is also important to notice that the leaders give orders, not for the purpose of relieving men from their jobs, but for the purpose of coercing employers to submit to their "demands."

Mr. Gompers, the President of the American Federation of Labor, made this statement on March 12, 1920:

"One right that ought to be inalienable is the right of workers to stop work for any purpose, at any time they wish, or think they ought to stop. That right is an inherent constitutional right * * * To require a worker by law to work when he does not want to work is to put the Government in the position of supporting a slave-owner."

He has just repeated this statement before the convention of the federation. He forgets that every industrial arbitration bill gives to corporations, to which it applies, and their men, full liberty to make voluntary agree-



*They
must resist
corrosion*

*Nuts
Bolts
Rods
Liners
Sleeves
Valvestems
seats
clappers
Condenser
- tubes
Plates
etc. etc.*

They
will resist
corrosion IF—
you specify
Brass and Bronze

Today, right in your own plant, there are no doubt pieces of apparatus—old veterans—that are Brass or Bronze fitted, because, when you bought them, you demanded them that way.

During the war, unfortunately, you had to take what you could get.

But now you can have all the Brass or Bronze you want. So why not insist on your former practice? Why not save money again by

spending a little more in the first place and have machinery that works better, lasts longer and costs less for repairs? The money you will save on repair bills alone will go a long way toward buying your next new machine.

From boiler feeder to condenser, there is not a piece of apparatus that does not need protection from corrosion. Brass and Bronze will give it, and add years of efficiency.

COPPER & BRASS RESEARCH ASSOCIATION

25 Broadway • New York

ments. The men retain their rights to organize and make collective bargains.

The plan proposed for preventing strikes is based upon fundamental principles of American government. Every citizen has equal civil rights. It is the duty of the Government to protect him in the reasonable exercise of these rights, and to prevent him from infringing the rights of others. The strike is a combination by members of a secret order to prevent citizens from exercising their lawful rights. The right of a citizen to travel on the public highway and to buy food, fuel and clothing is absolute. A combination to prevent him from doing this is unlawful.

The growth in the power of labor unions in the United States is remarkable. During the discussion of the railroad strike in August, 1916, it was asserted and not denied that the four railroad brotherhoods had \$1,000,000 in their treasury; had property amounting to \$15,000,000 more and an annual income of no less than \$4,000,000. William Z. Foster testified before the committee which investigated the strike of 1919 that there were about 2,000,000 members of the five international associations, and that the average dues would be a dollar a month. This would make \$24,000,000 a year. Foster said that about 75 per cent of this would go to local unions.

Although corporations are required to make sworn returns for their receipts and expenses and are accountable for these, not only to their stockholders, but also to the public, there is no such requirement placed upon the unions. They are not taxed. Their discipline is extraordinary.

Labor leaders often say that they will not do any harm to persons or property; that they "will fold their arms and do nothing." Let us for a moment assume that no affirmative act of wrongdoing would be committed. Is it not clear that the stopping of the operation of railways is just as injurious to the people who need to use them, in order to go to and fro to earn their own living or to get the necessary supplies for their families, as if the men burned the barns or destroyed the cars? It kills a man just as quickly if you plug an artery as if you cut his throat. Society cannot live without the circulation of the blood. The railroads are the channels through which it circulates. The chiefs of these great labor unions should seriously consider whether it is possible for society permanently to tolerate a condition under which this circulation can be stopped.

As for the pledge of the labor leaders, experience has shown, unfortu-

nately, that when a strike comes there is always violence. If any man comes forward to take the place of a striker, he is reviled, spit upon, assailed and sometimes murdered. "Exterminate the vermin," said Foster in 1919, referring to the men who went to work. Yet their right to work is as sacred as that of the others to quit. In the railroad strike of 1894 engines and cars, switches and tracks were injured or destroyed, and those who were trying to operate the trains in obedience to law were mobbed. In the coal strike of 1902 the cruelties practiced by the strikers upon all who did not co-operate with them were such that Wayne MacVeagh, who was a man of the utmost fairness, said it was "hell." These cruelties were inflicted not only on the men, but on their wives and children, on teachers in the public schools, on every living being in the district who did not co-operate with the strikers. These outrages are not always committed by members of the labor unions, but a strike always gives opportunity to the lawless element in the community. This is one reason why strikes should be prevented.

One of the most remarkable instances of the power of a labor union to control the policy of the United States Government is to be found in the transactions which followed the loss of the *Titanic* in 1912. A conference of the principal maritime States was held in London in 1913. Eleven delegates from the United States attended, including Senators Burton and Lewis and the Hon. J. W. Alexander, Chairman of the House Committee on Merchant Marine. The conference agreed unanimously upon a convention, which was transmitted by Mr. Bryan, who was then Secretary of State, to the President on March 13, 1914. We quote from his letter to the President:

"The convention embodies the unanimous conclusions of the International Conference on Safety of Life at Sea, which met at London from Nov. 12, 1913, to Jan. 20, 1914. The conference was composed of the representatives of the fourteen principal maritime nations, and of three self-governing British dominions. It was called, in a large measure, upon the suggestion of the Government of the United States, and the advice of the American delegation was influential upon a great many particulars which entered into this convention. The conference was composed of men trained to the sea and experienced in the administration of the laws relating to maritime affairs, and its unanimous conclusions carry weight on the matters of which the convention treats. The American delegates, who took an

active part in the framing of every article and regulation of the convention, are agreed that the international standards for the safety of life at sea thus proposed to be established are higher than those of any nation now in force, and that the ratification of the convention will secure benefits for humanity by the joint action of maritime nations which could not be accomplished by any one nation, however powerful, upon the sea."

This convention was transmitted by the President to the Senate on March 17, 1914. Mr. Furuseth, Chief of the International Seamen's Union of America, opposed the ratification of the convention, and advocated the passage of a bill which would give to seamen on American ships greater rights than those provided for by the convention. The agreement, however, was ratified by the Senate on Dec. 16, 1914. Mr. Furuseth, nevertheless, had influence enough with Secretary Bryan to induce him not to deposit in London the instrument of ratification within the time required by the convention. It consequently became inoperative as far as the United States was concerned, and Furuseth got his bill through. The additional burden imposed by this bill upon the American mercantile marine, as compared with that of other nations, is one of the difficulties under which American shipping now suffers.

President Wilson justly said in January, 1916: "It amazes me to hear men speak as if America stood alone in the world and could follow her own life as she pleases."

It is significant that several rules insuring additional safety in navigation which are contained in the London convention are omitted from the Seamen's act. This would indicate that Furuseth was more concerned in getting higher wages for the seamen and enabling them to desert with impunity, than he was in the preservation of their lives.

This brief review, which might easily be more extended, shows that the claim often made by the chiefs of labor unions that the great improvement in the conditions of labor is due entirely to them, is unjustified by the facts. They have undoubtedly done much good, and it is a pleasure to recognize this. But to say that these improvements are entirely due to them is untrue. They are due in a large part to the unselfish activity of public spirited men and women who have labored diligently for the improvement of their fellows. For example, the movement for the shortening of hours of labor, and against the employment of women and children in the mines, was inaugurated

in England, not by the trade unions, but by Lord Shaftesbury, who devoted his life to those noble ends. Similar activity by others, both men and women, contributed to the same result. Henry Mayhew's book, "London Labor and London Poor," published in 1864, and the activities of Arnold Toynbee and other university men did as much for the welfare of the London poor as the trade unions ever accomplished. Every good citizen should realize that it is not by strife, but by co-operation, that the greatest good can be accomplished for all citizens.

We have so far considered the evolution of the labor movement by mutual agreement and by legislation. We must now tell the story of its aggressive and warlike side.

In the year 1893 there came upon the United States that revolution in business, commonly called a panic. This affected the commerce transacted by means of railroads. There was a town in Illinois south of Chicago known as Pullman. Comfortable houses were built for the workmen near the manufactory. The water supply and the drainage were of the best type. Pumping engines sucked the air from the houses through the drainage pipes, thus insuring good ventilation. Visitors to Chicago were taken to see this model city.

The Pullman Company felt itself obliged, because of the great falling-off in the demand for its cars, to reduce the wages of the workmen employed in its factory. The workmen refused to accept the reduction and the union of which they were members decided on a strike. There was then an American Railway Union, of which Eugene V. Debs was President, which had an enrollment of 150,000 members. He ordered a strike on railroads for the purpose of supporting the Pullman strike, which extended through twenty-seven States. A bill was filed by Attorney General Olney, under the direction of President Cleveland, alleging that Debs and his associates were combining to obstruct the commerce of the country. The Court enjoined them from doing that. They were advised that the injunction was illegal, and they disobeyed it. They were arrested and put in prison. Mr. Debs testified before the commission of investigation appointed by Mr. Cleveland as follows: "As soon as the employes found that we were arrested and taken from the scene of action they became demoralized, and that ended the strike." He declared that it was neither the troops nor the police that broke up that strike, but the action of the United States Courts. Their action was sustained by the

Supreme Court (In *re* Debs, 158 U. S. 563; *ex parte* Lennon, 166 U. S. 548).

In the Phelan case (52 Fed. Rep. 803) Judge Taft (now Chief Justice) dealt with a disturbance arising out of this strike. Phelan was an organizer who induced railroad men to strike. The Court found that this was a violation of the order that all persons refrain from interfering with interstate commerce, and committed him for contempt. Judge Taft said that an individual had the right voluntarily to quit work. He was under no time contract. But the Court could restrain the chiefs of secret orders, in the management of which the public had no voice, from doing injury to the public. To quote his words:

"The purpose, shortly stated, was to starve the railroad companies and the public into compelling Pullman to do something which they had no lawful right to compel him to do. Certainly the starvation of a nation cannot be a lawful purpose of combination, and it is utterly immaterial whether the purpose is effected by means usually lawful or otherwise.

"Debs further testified: 'A strike is war. Not necessarily a war of blood and bullets, but a war in the sense that it is a conflict between two contending interests or classes of interests.'"

In the litigation which grew out of this strike, the following telegrams, which were exchanged between Debs and Phelan, show the proceedings of the strike leaders. There were many others of the same character:

DEBS TO PHELAN

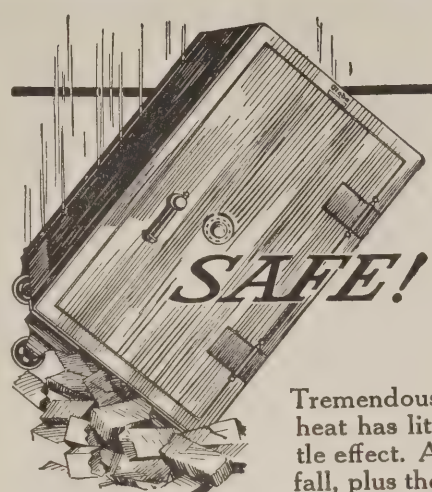
"July 2, 1894.

"Knock it to them as hard as possible. Keep Big Four out and help get them out at other places."

PHELAN TO DEBS

"Advices from all points show our position strengthened. Baltimore & Ohio, Pan Handle, Big Four, Lake Shore, Erie, Grand Trunk and Michigan Central are now in fight. Take measures to paralyze all those that enter Cincinnati. Not a wheel turning on Grand Trunk between here and the Canadian line."

A most significant change in the position of the labor unions in this country is in their attitude to the courts and to judicial decisions. This has been manifested in the recent meetings of the American Federation of Labor. That Federation is probably the largest labor union in the world. Mr. Gompers has just officially stated its present membership as 3,195,651. Its membership in 1921 was 3,906,528. Its income in the latter year was \$832,169.96, and it had in its treasury \$178,262.72. International associations expended during the same year, to sus-



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crushing load of collapsing walls, is successfully withstood by Globe Structural Strength Safes.

There is not enough combustible material in any fireproof building to harm this safe. However, any building, not fireproof, will collapse when subjected to intense heat for an hour. A safe, therefore, loaded heavily with records, must withstand a severe fall and the tremendous impact of crumbling walls and other heavy materials.

Globe Structural Strength Safes

Have proven in every fire that they do possess the necessary inbuilt Structural Strength. In the recent disastrous fire in the Austin Bldg., Chicago, a Structural Strength safe fell six floors to the basement where it was completely buried by falling walls and heavy debris. Days later, when workmen dug it out, its contents were found to be safely intact. It is the Structural Strength plus the heat resisting qualities that enable Globe Safes to stand up under such extreme tests.

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PHILADELPHIA CLEVELAND NEW ORLEANS

tain members on strike, \$8,462,175.09. They must be seriously reckoned with, not only because of their numerous membership, but because of their great income, which enables them to make effective propaganda.

Trade unions in the United States receive the privilege of exemption from taxation. Section 231 of the Federal Tax law, approved Nov. 23, 1921, provides that labor organizations "shall be exempt from taxation under this article." They were exempt under the prior tax law. An organization which has received such special favors should be loyal to the country which gives that privilege. But we find the Federation declaring in 1921, and again in the present year, that the action of the courts in passing judgment upon the constitutionality of acts of Legislature is a usurpation. The gentlemen making this declaration forget the fundamental principle of the American Constitution—not only Federal but State—that the People are sovereign, and that the People make the Constitution to protect the rights of the individual against the power of those who are for the time charged with the administration of government.

In order to protect these rights,

courts are created and expressly given the power to determine cases arising under the Constitution and the laws of the country. When the courts declare an act of the Legislature to be in violation of the Constitution, they simply say that the agents who voted for the act did what they had no right to do. This is maintained by the courts, not only of the United States, but of all the British Dominions. It is a necessary consequence of a written constitution, with a court to declare its meaning.

This same Federation assails the recent decision of the Supreme Court in the Coronado case, that a trade union is responsible for acts of violence committed by its members in carrying out the orders of the union. Such responsibility is imposed upon all other organizations. It is a movement in the wrong direction for a trade union to claim exemption from such liability.

In 1912, when Mr. Gompers was examined as a witness before the Interstate Committee of the Senate, he gave the following testimony:

Senator Cummins: "I take it you do not object to responsibility for an unlawful act in some form or other?"

Mr. Gompers: "Certainly not."

Senator Cummins: "That is, every man, whether alone or whether in association with others, if he commits a wrong, ought to respond for that act either to the public in a criminal prosecution or to the person who was injured by his unlawful act."

Mr. Gompers: "Unquestionably."

We note that Mr. Justice Brandeis, before his appointment to the Supreme Court, used the following language in an article on arbitration published Aug. 20, 1915: "A plea of trade unions for immunity, be it from injunction or from liability for damages, is as fallacious as the plea of lynchers." Mr. Brandeis was always considered a friend of trade unions. With their full approval he was made Chairman of the Board of Arbitration in the clothing trade and took an active part in promoting the agreement in that trade which has been before referred to.

The trade unions will find that their true course as good citizens is to submit cheerfully to the same laws which are binding on their fellow citizens. When their purposes are right and good, they need no exemption; when their purposes are evil, they ought not to have it.

It is too soon to make a complete

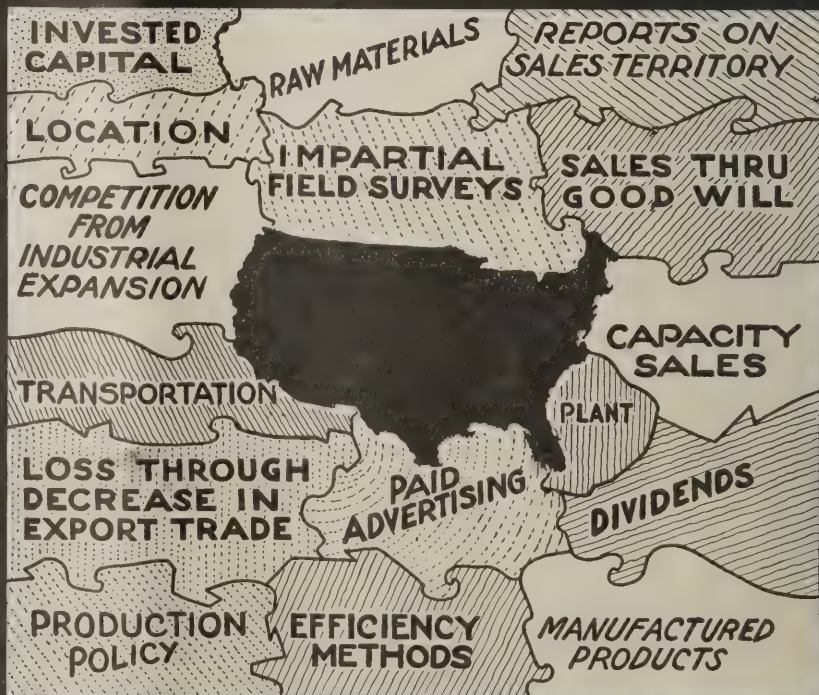
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ROCKFORD ILLINOIS



analysis of the rise and progress of the coal strike. It is clear, however, that one cause of the difference was this: Mr. Lewis, the President of the United Mine Workers, insisted upon an agreement which should be uniform throughout all the bituminous mining districts. The operators contended that the conditions were so different in the different districts that it was impossible to make a uniform agreement which should be just.

Other facts have been made clear, by sworn testimony, in the case of *Gasaway vs. Borderland Coal Corporation*, decided by the United States Circuit Court of Appeals in December, 1921 (*Chicago Legal News*, Dec. 21, 1921):

"The evidence shows that the members of the Mine Workers' Union purchased firearms and ammunition, and otherwise financed the violent activities in behalf of the unionizing forces in West Virginia, and this state of war continued until the President sent troops into the State, and it is held in abeyance only because of the fact.

"The evidence shows that the revenues of the Mine Workers' Union are produced from dues and assessments levied upon the members, that these dues and assessments are, by an arrangement between the miners' organization and the operators, taken from the wages of the workers in the mines by the operators and paid by them to the organization of mine workers. This is the 'check-off' system. The membership is large, and

the dues and assessments yield an enormous sum.

"Statements made by the officers of the United Mine Workers show that the miners' organization has sent into West Virginia to carry on this struggle more than two and a half million dollars. This money was derived from the 'check-off' system, and was sent to West Virginia to assist in the effort to organize the West Virginia field."

The system of the Mine Workers' Union in all the districts where it has succeeded in "unionizing" the mines is this: No man is allowed to work in the mines unless he is a member of the union. When he becomes a member he is required to sign a contract that his dues to the union shall be deducted from his pay, and sent by the company to the Treasurer of the union. As long as he remains a member of the union, this contract remains in force. The only way he can get rid of it is by resigning from the union, in which case he loses his job.

Here we see a persistent attempt by a trade union to compel workers in the non-union mines to join the union, pay dues to the Treasurer, and authorize the employer to deduct these dues and pay them to the union. The union makes no public report of its finances. But obviously, if it is able to spend millions of dollars in warfare to compel unwilling miners to join the union, it must have an ample fund. Yet the miners' union is making bitter complaint because the employers in the non-union mines are meeting force with force, and are doing all they can

to prevent their men from joining this hostile organization. The unions are not "good sports." They want to fight, but they do not admit the right to strike back. They should remember that when force is resorted to, it will be opposed by force. They claim the right of free speech, for their friends, but do not concede it to their adversaries, and do not recognize that freedom of speech has its limits. No one has a right to use language which incites men to violate the rights of others, much less when it incites them to riot and violence.

As Theodore Roosevelt said in his speech to the striking teamsters of Chicago, May 10, 1905: "I am a believer in unions. But the unions must obey the law, just as the corporations must obey the laws; just as every man, rich or poor, must obey the laws."

Washington, himself, during his administration, had to deal with a combination in Pennsylvania to resist the execution of acts of Congress, and assail the authority of the courts. This, by a judicious mixture of tact and firmness, he succeeded in suppressing. This experience, and a previous similar insurrection in Massachusetts, led him to say in his farewell address to the American people: "All obstructions to the execution of the laws, all combinations and associations, under whatever plausible character, with the real design to direct, control, counteract or awe the regular deliberation and action of the constituted authorities, are destructive of this fundamental principle and of fatal tendency."

Sitka Spruce's Place

ALTHOUGH Sitka spruce may never again be so eagerly sought or extensively cut as during the war, it has so many superior qualities in the opinion of foresters and lumbermen that it leads the lumber industry of the Pacific Coast region. It grows rapidly, makes a large yield to the acre, lends itself fairly well to forest

management, and produces a wood which has high value for many special purposes, prominent among which is the manufacture of paper.

The greater part of the virgin forests in which Sitka spruce occurs has not been reached by lumbering operations, according to a bulletin issued by the United States Department of

Agriculture. Until recently, says the bulletin, the cut was relatively small. Sitka spruce was not well known in the world or national markets until an extraordinary demand arose during the war because of its superiority for airplane construction.

The stand of Sitka spruce in America is estimated at 40 billion feet.

WATER

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Through plans now being formulated we hope soon to be able definitely to announce to the Manufacturers of the United States, that we are in a position to offer the largest Motion Picture Theatre and non-Theatrical circulation for "Industry" and "Product" Films ever before thought possible.

The average daily attendance in the Motion Picture Theatres throughout the United States is in the millions.

Your films would reach a definite percentage of this tremendous circulation.

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Your Suggestions?



INNOVATION FILMS

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BRICK INDUSTRY IN MOVIES

In an effort to educate the public to the advantages to be derived by constructing homes built of brick, Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association, has entered the moving picture field and plans the production of a "movie."

"This film," said Mr. Stoddard, "is for the sole purpose of showing how simple it is to own a home. It tells the story, step by step, of how a man with a small salary went about raising the money, getting his plans, building the house and furnishing it.

"A modern small brick house is being built solely for the purpose of making this five-reel film. In an hour or two a person will be able to learn as much through the eye on how to solve the problems connected with building a home as from three to four days' study of technical books.

"The reel will show how the modern brick home is put together, and how its permanence and minimum upkeep expense makes it cost less than any other type of house, as well as being the most beautiful. Modern, labor-saving devices and electrical equipment of every kind known to modern science will be installed throughout the house."

The film will be shown by real estate boards and by other institutions throughout the country interested in the encouragement of home building, it is said.

IMPORTANT TO EXPORTERS

On and after January 1st, 1923, a new form of invoice and combined certificate of value is required to be used in the case of goods consigned to:

Australia, New Foundland, Barbados, Fiji, St. Lucia, Gold Coast, New Zealand, Cyprus, Dominica, Grenada, St. Vincent, Union of South Africa, Jamaica, Trinidad, British Guiana, British Honduras, and such other parts of the British territories as may from time to time adopt the same regulation.

Forms can be obtained from the British consulates, but for those who are in constant trade with those countries it is advisable to have their blanks especially printed.

The new form has to accompany all goods arriving in those countries on and after January 1st, 1923.

CHINESE OUTLOOK HOPEFUL

China is passing through a severe economic crisis at the present time, but hope for an improved state of affairs is held out by Commercial Attaché Julean Arnold, of the American Legation in Peking, who arrived in San Francisco in November. Arrangements are being made at the Bureau of

Foreign and Domestic Commerce to have Mr. Arnold visit cities interested in trade with China so that business men can get first-hand information about sales openings and conditions in that country. The Foreign Service Division of the Department of Commerce in Washington, D. C., is looking after Mr. Arnold's American itinerary. American firms interested in the Chinese market can arrange to confer with Mr. Arnold by addressing the division mentioned.

EXPONENT OF DANUBIAN TRADE

An official gazette, entitled *Danube Trade*, is being issued by the progressive Hungarian Chamber of American Trade of Budapest. The periodical is illustrated and printed largely in the English language. The publishers will be pleased to send copies to manufacturers interested in cultivating business with Hungary and other countries bordering on the great river Danube. Correspondence should be addressed to the Editor of *Danube Trade*, care of the Hungarian Chamber for American Trade, Akademia-utca 1, Budapest V., Hungary.

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A high grade industrial manager, with twenty years executive experience, and now employed, wishes to connect with large manufacturer needing able man to improve production methods, lower costs, improve quality, increase profits. Have managed large force, metal, wood, composition products. References given and required. Address: A. B. P., "American Industries."

FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

IRELAND

Automobile and motorcycle tires, tubes and accessories, are of interest to a firm of wholesale merchants in Ireland. (596)

BELGIUM

Machinery and apparatus of all kinds for the manufacture of canned fruits, also apparatus for the manufacture of cans for this purpose, is of interest to a manufacturer of preserved fruits in Belgium. Correspondence in French. (597)

ITALY

New inventions, and improvements of all kinds in machinery, hardware, labor saving, etc., devices, are of interest to a manufacturers' agent and merchant in Italy. (598)

HOLLAND

Paints and roofing coatings of American make, prepared to compete with the German article for Holland. The inquirer desires agency connections stating that he can sell 50,000 kilos of paints and 10,000 rolls of roofing per annum. (599)

NORWAY

Smokers' supplies of all kinds, including pipes, pipe cleaners, tobacco, etc., are of interest to a firm of merchants and importers of smokers' articles. (600)

SPAIN

Electric equipment for autos, storage batteries, repair part and similar goods are of interest to a firm of merchants in Spain. Correspondence in Spanish. (601)

GREECE

Cotton sheetings, cotton and woolen textiles, knit goods, hosiery, underwear, coffee, wheat flour, granulated sugar, rice, condensed milk, automobiles and sporting guns. Samples and prices c. i. f. Cavalla, Greece, are desired, including a commission to the inquirer. Correspondence in French. (602)

Knitting machinery for Greece. A firm of importers and commission merchants desires to hear from American manufacturers. (603)

ROUMANIA

Emery paper and cloth, vanilla in sticks, packed in tins, laundry blue, condensed milk and fishing tackle and supplies are of interest to a merchant in Roumania. Correspondence in German or French. (604)

AUSTRALIA

Air balloons for Christmas for Australia. The inquirers desire samples of 50, 75 and 100s, together with full information as to price, discount, etc., per gross, also on quantities of 50, 100, 200 and 500 gross. (605)

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The John Price Jones Corporation is an organization of experienced men specializing in publicity, public relations, educational campaigns for public or business purposes, and the organization of conventions and other special undertakings calling for an expert staff.

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- It has immediate connection with all city transportation lines.
- It is light, roomy and equipped in every modern way.

Are you opening or re-locating an office in New York?
If so, you should be in the manufacturers' central district.

For particulars write or telephone to the

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New York

Telephone, Cortlandt 3397

INDIA

Moving picture films, machines, parts and accessories, are of interest to a firm of native merchants in India. (606)

CUBA

Construction materials of all kinds for Cuba. The inquirer desires printed matter, prices, etc. The inquiry is referred to the N. A. M. by a member. Correspondence in Spanish (607)

Electro-plating apparatus and equipment for Cuba. The inquirer desires catalogs, quotations and full data on a complete equipment. (608)

General hardware, kitchen utensils and household supplies, enameled iron ware, hardware, paints and small ware are of interest to a hardware merchant in Cuba. (609)

Steel products, particularly roofing and building hardware; foodstuffs, canned goods, cotton seed oil, pork products, flour, both wheat and corn, paper and rice. The inquirers are general merchants and manufacturers of biscuits and macaroni in Cuba. (610)

PORTO RICO

Barrels and shooks of the kind used for packing stripped tobacco, for Porto Rico. (611)

MEXICO

Shoes, clothing, hats, fire-arms, canned goods, soaps and perfumery, jewelry, hosiery and shoemakers findings, are of interest to a merchant in Mexico. Correspondence in Spanish. (612)

General hardware, wire nails, sheet iron and copper, small plows, carriages, buggies, builders' hardware, saddlery and harness, horse and carriage accessories generally, files, scales, lanterns, pewterware, padlocks, lamp chimneys, common tumblers and drinking glasses are of interest to a merchant in Mexico. Correspondence in Spanish. (613)

SALVADOR

Cotton piece goods of all kinds, fine hardware and groceries are of interest to a merchant in Salvador. Correspondence in Spanish. (614)

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with 10 years' Latin-American mercantile and social experience seeks connection with manufacturing or mercantile house for purpose of either permanent representation or investigation trip in those countries. Also ready to discuss very favorable and economic proposition for the representation of group of non-competitive manufacturers, who may want to show their products at the Brazilian International Exposition at Rio Janeiro this winter. Speaks Spanish, French and German. Best of references, bank and others.

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American manufacturers interested in reorganizing or reshaping an already established

DIRECT EXPORT BUSINESS

or in going after it on a sufficiently vast scale, or in a level-headed, ambitious — neither pessimistic nor unduly optimistic—manner, are invited to send their names, with indication of the official to be communicated with and also the nature of products (if not obvious), and by circular matter already prepared, they will at once receive preliminary information.

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Fine and medium grades of glassware, hardware of all kinds, enameled kitchen utensils and toys including mechanical, rubber, wood, metal and electric, etc., are of interest to a merchant in Bolivia. Correspondence in Spanish. (615)

CHILE

High speed motor boats for sporting purposes for Chile. The inquirers desire catalogs and quotations. Correspondence in Spanish. (616)

Flour mill machinery for Chile. The inquirer desires to install a modern flour mill and wishes to hear from American manufacturers with a full line of machinery and equipment. Correspondence in Spanish. (617)

COLOMBIA

Machinery for the manufacture of buttons from vegetable ivory nuts; also dyes and stains for coloring such buttons are of interest to a firm of button makers in Colombia. Correspondence in Spanish. (618)

Drafting tools and engineering implements are of interest to a firm of hydraulic and waterworks engineers in Colombia. (619)

Boots and shoes of all kinds, hosiery, cotton and silk underwear, gloves, shirts, collars, silk textiles of all kinds, drugs, chemicals, table glassware, hardware, and grocery goods. The inquirers desire to secure American agency connections for Colombia. (620)

Paper and paper products, automobiles, motors and engines for launches, etc., electrical supplies, art novelties and canned goods. A firm of manufacturers' agents desires to secure American connections in the above. Correspondence in Spanish. (621)

PERU

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1. The World's Merchants, Manufacturers, and Shippers. Published by Kellys Publishing Co., 2 volumes, 1921 edition. Original cost \$40.00. Selling price, \$10.00, without postage.
2. South African Merchants, Manufacturers, etc. for 1921. Comprises separate trades and professional directories for 2,000 townships and districts of Cape, Transvaal, Natal and Orange Free States provinces, together with maps. Original cost \$12.00. Selling price, \$3.00, without postage.
3. Norwegian Merchants, Manufacturers, etc., for 1920-1921. Gives details of business of firms throughout Norway, together with maps. Published in the Norwegian language. Original cost, \$15.00. Selling price, \$2.00, without postage.
4. Danish Merchants and Manufacturers for 1920. 2 volumes. Published in the Danish language. Original cost, \$10.00. Selling price, \$1.50, without postage.
5. Egyptian Merchants and Manufacturers, etc., for 1919. Printed in the French language. Original cost, \$4.00. Selling price, \$1.00, without postage.
6. The Indian Guide and Directory for 1920. With complete maps, and arranged according to towns and classifications and also alphabetically. This Directory covers Bombay, Calcutta, Karachi, Madras, Rangoon, Burma stations, Mesopotamia and South West Asia. Original cost, \$8.00. Selling price, \$1.50, without postage.
7. Mines Handbook and Copper Handbook, 1920. Published by H. Weed. Well arranged, giving a record of active mining companies throughout the world, glossary of mining terms and statistics. Original cost, \$15.00. Selling price, \$3.00, without postage.

Address Foreign Department
National
Association of Manufacturers
50 Church Street, New York

VENEZUELA

Wire fencing, sheet iron, linoleum, glass and kitchen ware, clothing and textile goods generally, boots and shoes, underwear, paper of all kinds, groceries and food products. The inquirers desire to receive quotations, samples, catalogs, etc., on the above. Correspondence in Spanish. (623)

Cotton piece goods, silk goods of all kinds, cotton and silk hosiery and blankets. A manufacturers' agent desires to secure American agency connections in the above for Venezuela. (624)

Cotton textiles, particularly ducks, rice, flour, lard and butter, silks, hosiery, towels and fancy goods and other similar lines. A manufacturers' agent desires to secure American representations in the above for Venezuela. (625)

WEST INDIES

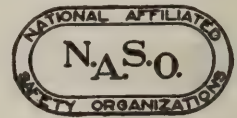
Representation in British West Indies. A New York Export house is particularly interested in communicating with manufacturers of such lines as cotton piece goods, hosiery, underwear, beef products and flour, who desire to be represented in the Islands of British West Indies. (626)

COMPLETING MEMBERSHIP OF THE N. A. M. COMMITTEES

The following is a list of the memberships of the Standing Committees of the National Association of Manufacturers for 1922-1923, as completed up to date:

ADVISORY COMMITTEE OF MANUFACTURERS

A. Cressy Morrison, Chairman, Electro Metallurgical Company, New York, N. Y.; D. A. Burt, La Belle Iron Works, Steubenville, Ohio; John S. Broughton, United and Globe Rubber Company, Trenton, N. J.; J. Walter Drake, Hupp Motor Car Company, Detroit, Mich.; William J. Faux, Logan Coal Company, Philadelphia, Pa.; J. H. Frantz, American Rolling Mill Company, Columbus, Ohio; Henry Howard, Grasselli Chemical Company, Cleveland, Ohio; Finley P. Mount, Advance-Rumely Company, La Porte, Ind.; R. W. Nelson, American Typefounders



Safety Devices

Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

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Leggings—To protect foundrymen's legs against molten metal.

Shoes—To protect workmen's feet against molten metal.

Respirators—To prevent inhalation of harmful dust or fumes.

Knuckle Guards—To protect hands when wheeling barrows or trucks through doorways or narrow passages.

Ladder Feet—To prevent ladders from slipping.

Chip Guards—To protect eyes from injury by chips thrown from lathe tools.

Metal Danger Signs—Portable, for use in shop, yard or street.

Linen Danger Signs—Various warnings of danger, for attaching to sign boards or partitions.

Rules for Cranemen—For guidance of crane operators and others.

First Aid Jars—Emergency outfit especially developed for industrial use.

Stretchers—Sanitary metal stretchers, which can also be used as cots.

Shaft Protector—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

An Achievement Worthy of Record

F. Eugene Ackerman and his associates, on behalf of business men, organized and directed the campaign for a scientific tariff, the principles of which were incorporated into the flexible tariff provisions of the present bill. The President of the United States recently declared that this provision marked a new era in the history of tariff legislation in this country.

This organization comprises skilled and experienced men whose services are effective in many avenues of business publicity. Each of them is a skilled journalist, with unusual ability in the writing of copy, whether for the editorial or advertising columns. Each one has successfully conducted national and international information campaigns on behalf of important interests and of foreign nations.

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Company, Jersey City, N. J.; J. W. Ring, Model Milling Company, Johnson City, Tenn.; B. U. Shriner, French, Shriner & Urner, Boston Mass.; F. M. Stearns, A. T. Stearns Lumber Company (Neponset), Boston, Mass.; Benjamin B. Tilt, Phoenix Silk Manufacturing Company, Paterson, N. J.; F. R. Valentine, M. D. Valentine & Bro. Company, Woodbridge, N. J.; C. N. Wheeler, Crocker-Wheeler Company, Ampere, N. J.; N. W. Wilson, Hammermill Paper Company, Erie, Pa.; Nathan B. Williams, Counsel Union Trust Building, Washington, D. C.; George S. Boudinot, Secretary, New York, N. Y.

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Written especially for AMERICAN INDUSTRIES

By HELENA V. WILLIAMS
National Tuberculosis Association

OF recent years the attention of the public has been called more and more insistently to the importance of health preservation. The appeals for the support of various health movements such as cancer, tuberculosis, mental hygiene, social hygiene, and so on, have ranged from the most idealistic to the most practical and businesslike. Particularly have the organizations who foster these movements appealed to business men for financial and moral aid, and the latter, anxious to help a humanitarian cause, have been sympathetic and coöperative. Only a comparatively few business men, however, realize that the development of these campaigns definitely affect their own balance sheets. When, around the first of December, they are requested to purchase Christmas seals to aid the campaign against tuberculosis, they do so. But they rarely consider this purchase in the light of an investment which pays higher dividends than almost anything else in which they can place their money.

From seventy to ninety per cent of the people in this country have physical defects that impair their working efficiency. Even among our picked young men the draft weeded out one out of every three as unfit to fight. Many of these defects may be easily removed if taken in time, but if neglected they often result in years of inefficient labor until finally the disease has progressed to the incurable stage. The records of the Life Extension Institute, which has examined more than 250,000 persons, show that physical impairment is almost universal and that innumerable conditions of preventable and curable defects are revealed by medical examinations. For example, 66 per cent were found with defective vision; more than 60 per cent with mouth infection of the most serious type; 85 per cent with some form of health infection such as tonsils, teeth, nasal cavities; 3 per cent with active signs of tuberculosis; 60 per cent requiring anti-tuberculosis observation; 21 per cent had flat feet reflecting a lowered muscular condition, or sub-normal condition of nutrition; 10

per cent to 15 per cent showed evidences of heart impairment and more than 30 per cent with arterial changes. The vast majority of these people were men and women engaged in business, in the artistic and cultural professions or working as domestics, laborers and mechanics. It is certain that these defects must have impaired their efficiency, and that consequently their value to their business or their employers was lessened according to the degree of their disability.

One of the most menacing diseases from the standpoint of health is tuberculosis. It is primarily a disease of producers, for most cases come between the ages of 15 and 44. Sixty per cent of all tuberculosis deaths, in fact, occur in this group, and only one cause of death, organic diseases of the heart, takes more lives than tuberculosis.



The National Tuberculosis Association has estimated that by capitalizing each individual life in a population of 100,000,000 at the conservative figure of \$100 per year, the money saving, if tuberculosis were eradicated in the United States, would be at least twenty-five billion dollars.

Out of the million cases of active tuberculosis in this country, fully 60 per cent are at the age period when they are engaged in gainful occupations. A closer examination into the statistics dealing with specific indus-

tries, reveals the fact that the greatest number of consumptives who are wage earners come from potteries, textile factories, and certain mines and quarries. Out of 2,390 deaths of textile mill workers (male) 525 died from this disease alone, the reason for this high death rate being the presence of dust in the air that is breathed by the worker. For the same reason tuberculosis prevalent among granite workers is high. Out of 427 men employed in quarries in Barre, Vt., only 27 chests were found to be normal. There is also a high mortality from consumption in the grinding, toolmaking, printing, weaving, spinning and the cloak, suit and fur trades.

It is obvious that these conditions must have a far-reaching economic effect. The wage earner who has a family to support, frequently works until he is too ill to leave his bed, before he calls a doctor. It is certain that during the period of his illness his work cannot be 100 per cent efficient. If he has tuberculosis he may be admitted to a sanatorium—provided, there is a vacant bed—in which case the cost of his care is paid for by the community. The cost of caring for the family that is suddenly left without a wage earner also falls upon the shoulders of the community. Yet, had the patient had an early diagnosis, he might have recovered within a period of a few months and returned to his old occupation as an efficient worker. If his children are infected with the germ, as from 70 per cent to 95 per cent of our children are, they must be taught the importance of fresh air, good food, exercise, and rest so that they will know how to prevent the development of the disease in later life when they, too, become wage earners. All of this means a financial loss to industry, to the individual and to the community.

The campaign for the eradication of tuberculosis may be promoted in numerous ways. Chief among them perhaps is the installation of a medical examination service in connection with industrial plants. This is, after all,

the best way to maintain records regarding all forms of sickness in an establishment. Incidentally, these records are an illuminating index to the causes for labor turnover.

Disease prevention is a process of education and organization. The Modern Health Crusade, which to-day has a membership of approximately 6,000,000 school children in the United States, is one way of teaching health to the next generation. The establishment of new tuberculosis sanatoria and hospitals help to restore to working efficiency thousands who would otherwise be lost to industry. The clinic, the nurse, the open air school—all are parts of an organized movement to control tuberculosis.

The National Tuberculosis Association and its 1,200 affiliated organizations encouraged by the results already accomplished are pressing their campaign more vigorously than ever. In less than twenty years the death rate has been cut in half. It is their hope that tuberculosis may disappear entirely within a comparatively few years. It can be done, if everyone will help. In order to secure funds with which to carry on the work they are engaged in, the fifteenth annual sale of Christmas seals will be conducted throughout the country in December. By purchasing these seals the business man may in one way help toward a stronger, healthier, more contented nation.

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Other references in the United States: Banca Commerciale Italiana, New York.



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Great Ports of The Nation—Savannah

By The Hon. Murray M. Stewart
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By Vicente Villamin
Secretary, Philippine-American Chamber of Commerce



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JANUARY
1923

Volume XXIII
No. 6

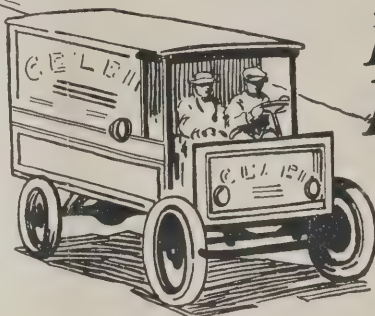
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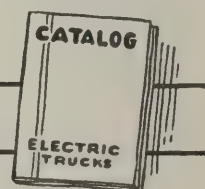


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Vol. XXIII

JANUARY, 1923

No. 6

IN THIS ISSUE

Cover illustration: The famous rice paddies of the Philippines. These are built on the sides of the mountains by the Igorrotes and have attracted wide attention as engineering marvels.

GREAT PORTS OF THE NATION—SAVANNAH	- - - - -	Page 5
By the Hon. Murray M. Stewart, Mayor of Savannah.		
NEED FOR A CONSTRUCTIVE IMMIGRATION POLICY	- - - - -	9
James A. Emery before the American Farm Bureau Federation.		
ARBITRATING TRADE DISPUTES	- - - - -	11
By Moses H. Grossman, vice-president and founder, Arbitration Society of America.		
FIFTY-SEVEN VARIETIES OF FOOD LAWS	- - - - -	13
By J. S. Abbott, secretary, Margarin Manufacturers' Association.		
OUR BUSINESS DOMINIONS—THE PHILIPPINES	- - - - -	15
By Vicente Villamin, secretary, Philippine-American Chamber of Commerce.		
FARM WAGES COMPARED WITH OTHER WAGES	- - - - -	19
By Hon. Henry C. Wallace, Secretary of Agriculture.		
EIGHTEEN MONTHS BUSINESS IN GOVERNMENT	- - - - -	21
By the Hon. Herbert Hoover, Secretary of Commerce.		
BITS OF NEWS ABOUT MEN IN INDUSTRY	- - - - -	23
EDITORIAL	- - - - -	24
OPEN FORUM FOR OUR READERS	- - - - -	27
ROMANCES OF INDUSTRY—PAPER	- - - - -	29
By W. J. Raybold, president, American Paper and Pulp Association.		
REDUCING DUST EXPLOSIONS	- - - - -	34
By D. J. Price, Engineer in Charge of Development Work, Bureau of Chemistry, Department of Agriculture,		
THE LABOR OUTLOOK FOR 1923	- - - - -	36
By Michael J. Hickey, assistant secretary, National Industrial Council.		
WORLD TRADE	- - - - -	38
THE REAWAKENING OF CUBA	- - - - -	38
FOREIGN TRADE OPPORTUNITIES	- - - - -	41



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D.M. Edwards, Editor

Vol. XXIII

JANUARY, 1923

No. 6

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Commerce has grown by leaps and bounds, justifying every demand for Federal Aid, until today plans are underway for a great State Port and Terminals constructed at a cost of \$15,000,000

Written especially for AMERICAN INDUSTRIES

By The Hon. MURRAY M. STEWART
Mayor of Savannah

SEVENTY years ago a writer in *Hunt's Merchants' Magazine*, then a leading business journal of this country, wrote of Savannah:

"From the wonderful richness of the agricultural and the mineral portions of Georgia and the geographical position of Savannah, together with the enterprising character of the people, it is impossible not to foresee for the former a prosperity which will eminently entitle it to its title of 'Empire State of the South,' while the 'manifest destiny' of Savannah seems to be that it will rapidly increase in importance and permanently occupy a position among Southern commercial cities next to New Orleans."

Time has only served to demonstrate the accuracy of this writer's foresight. His prediction has been sustained by the development of the port of Savannah. The war between the states merely served as a temporary check to the development of its commerce. As soon as the war obstructions that had been created in the river channel were removed and the crops of the South began to increase to the old time proportions, cotton moved in an ever increasing volume to Savannah as the most satisfactory outlet to the markets of the world.

Other products of the South likewise found in this port the best facilities for shipping and naturally gravitated to Savannah. Commerce grew by leaps and bounds and justified the demands made upon the Federal Government for river and harbor improve-

ments. Millions of dollars were appropriated by Congress and expended in permanent deepening of the channel until to-day heavily freighted vessels drawing thirty feet of water go to sea. In every instance the liberal appropriations have been sustained by the expansion that has come in the amount of waterborne traffic using the harbor. Savannah's successful contention at Washington has always been that appropriations for this



Mayor Stewart

river and harbor were fruitful of immediate results.

Savannah's "manifest destiny" as expressed seventy years ago, is Savannah's "manifest destiny" to-day. Its geographical position with respect

to the South and Middle West, has been immeasurably strengthened by the ever-expanding rail connections with all parts of the country. Seven decades ago railroad construction was still in a comparative infancy. Savannah's enterprise had given it rail communication with considerable Georgia, Alabama and Tennessee territory; its public credit had gone freely toward railroad building as the greatest developing power within its reach.

To-day it is still paying interest on millions of bonds issued in that era of railroad building when municipalities eagerly competed in the great race for material prosperity built upon an ever-widening trade territory.

But instead of the line or two of poorly equipped roads, with a train or two a day, Savannah to-day has its steel lines of communication extending in all directions. Four great railroad systems pour the freights of a vast territory into its terminals.

In place of the little old-fashion freight yards these terminals cover hundreds of acres and represent many millions of investments, with warehousing facilities and loading and discharging equipments that have reduced expenses of handling commodities to a parity with other ports, keeping Savannah efficiently abreast with them in competing for the trade of the world.

Great steamship terminals have also come to replace the wharves of the old time sailing and small steamships that met the demands of commerce

before and for years after the war of 1861-65, until to-day sixty ocean-going steamships could take on freight in this port at the same time without inconvenience and without delay.

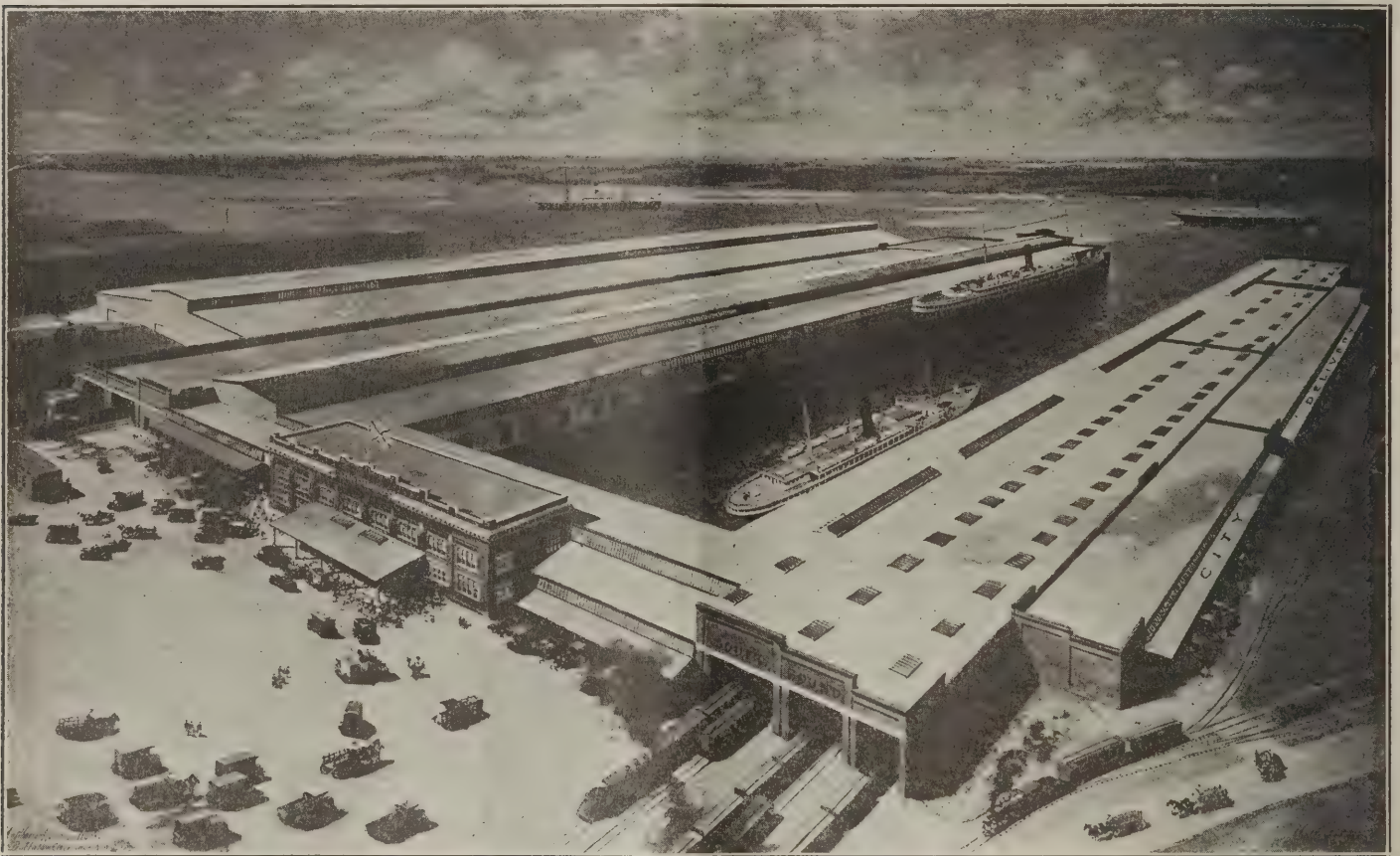
Like other ports, Savannah has been subject to fluctuations in the volume of its business brought about by crop conditions and varying degrees of national, or sectional, prosperity. But it has never varied in its spirit of aggressiveness in pursuit of trade in any and all territory that reasonably could be considered as open to it. Its cotton merchants have brought to it for shipment vast quantities of that staple from eight or nine of the producing states. From

ability, experience and enterprise, backed by adequate capital, and strengthened by world-wide connections, and Savannah has all of these elements that unite to make a port great and to maintain its prestige.

At one time Savannah's shipments were restricted to three commodities, staple products of the South, cotton, naval stores and lumber. With the exhaustion of the forests within reasonable haul, its prominence as a lumber port dwindled away. In naval stores, that is, rosins and turpentine, its position has also naturally suffered from the shrinkage of total production brought about by the destruction of the pine forests. It still holds its

tured goods pass outward through the port, and inward bound come the enormous stores of domestic merchandise for distribution throughout Georgia and adjacent states.

The opening of vast areas for farming in the past thirty years led to the expansion of the fertilizer industry, and the handling of fertilizer ingredients, and of the finished products, and gives to the railroads a tremendous tonnage of freight. Cotton seed oil mills and other lines of industry have become firmly established at or near Savannah, each yielding its full quota of freight to the port's commerce. Chief among them is the sugar refinery, to which in recent years have



The Ocean Steamship Company's new piers at Savannah

as far away as Oklahoma and upper Texas cotton has moved in a stream to this port for shipment to the consuming mills of Great Britain and Continental Europe. Shortness of production and financial and industrial depression this year necessarily limit the handling of cotton here, with the domestic mills buying heavily for direct rail shipment from the interior, but the courageous spirit of Savannah trade is unshaken by the unsettling aftermath of the World War, and the determination to maintain Savannah's position with regard to cotton will be a positive factor in restoring to it a full volume of foreign cotton exports. Commerce inevitably follows the channels created for it by men of

prestige, though, as the world's great primary market for naval stores, its prices are the world's basic quotations, and the exporting houses centered here control the bulk of the world-wide distribution from the United States of these important commodities.

The wiping out of the forests was essential to the development of the state for agriculture, even though the destruction of the timber may have been too precipitate and too wasteful. In the place of the pine tree products has come a wealth of other products, furnishing an enormous volume of traffic annually, both domestic and foreign.

Great quantities of cotton manufac-

ture come full cargoes of raw sugar from Cuba, paying heavy duties to the Government. The refined sugar of Savannah is now marketed South, North and West.

Other importing and exporting industries have prospered and the foundations have been firmly laid for a future expansion of the important manufacturing life of the city. At one time Savannah could have been described as a town of two seasons in business, the cotton season and the naval stores season. The description no longer holds good. It is a city of an all-the-year-round business as a result of the variety of the industries it enjoys and of the multiplicity of the freight movement that has come to it.



A view of Savannah's waterfront

Reference has been made to the railroad systems which have contributed to the upbuilding of Savannah's importance as a port. They are the Central of Georgia, which is now a part of the Illinois Central system; the Seaboard Air Line; the Atlantic Coast Line; and the Southern. In all, these four railroad systems have eleven lines entering Savannah. In addition there are what may be described as state feeders, three independent lines—the Savannah and Atlanta; the Midland Railway; and the Savannah and Statesboro—lines that function in an essential way in bringing considerable sections of Georgia into direct and easy communication with their chief market and shipping point. In every direction Savannah is well served by railroad communication.

Its steamship lines, the natural successors of the lines established before 1861, when Savannah was a Southern leader in this field of transportation, give constant and ample facilities for freight movement to the North and East. The Ocean Steamship Line, three sailings a week to New York

and two sailings a week to Boston, operating the finest vessels on the Atlantic Coast, and the Merchants and Miners Line, operating two steamships a week to Baltimore and two to Philadelphia, total weekly sailings of nine large freight carriers, with excellent passenger accommodations, give to Savannah a position not enjoyed by any other South Atlantic or any Gulf port. The Ocean Steamship Company has recently signed a contract for two additional ships, larger and more luxuriously equipped than any now in service. Another line of steamships is projected to furnish an especial medium for handling the fruits and vegetables of the Savannah, Beaufort and Charleston "truck" district to the New York and other northern markets.

In the foreign trade there are regular freight liners now centering here, with English and German ports as their destination, some of the latter vessels with excellent passenger accommodations. Japanese shipping company boats are frequent visitors to the port and large carriers of cotton, naval stores and other heavy merchan-

dise. While the commerce of the port, in common with that of other ports, received a heavy blow from the effects of the war on European consuming countries, it is gradually being restored to normal. Old connections have been reestablished, new ones formed, and the intricate machinery of commerce put in an effective working condition for the period immediately ahead when it is felt, and sanguinely believed, commerce in general will push forward to its old time proportions. Savannah is preparing to handle to the best advantage all the trade that develops in the coming years.

As stated, at the great terminals of the Central Railroad and Ocean Steamship Company, the Seaboard Air Line, and the Atlantic Coast Line, Savannah can load, under favorable conditions as to expenses, sixty vessels without embarrassment. But the port is not content to rest satisfied with existing berthing accommodations and loading and unloading facilities which are under private corporation control. In the past two or three years modern coaling and oiling sta-



Projected plan for the new Port system



An older section of the river front

tions have been established.

In addition there has come into life a movement that may revolutionize the port—plans for the establishment of a great State Port and Terminals at an expenditure estimated at \$15,000,000. This movement originated in the country and not at the port. The State Legislature established the Georgia Harbor, Port and Terminal Commission with Hon. S. G. McLendon, as chairman. This Commission engaged Mr. F. W. Cowie, of Montreal, one of the world's eminent authorities on Port Terminals, who visited the several Georgia ports and endorsed Savannah as the proper location for a State Port. The Commission unanimously approved this and plans were prepared for the creation at Savannah of a magnificent plant, a bird's-eye view of which is furnished herewith. Included in this plant are all the necessary grain warehouses, cotton warehouses, general merchandise warehouses, coal storage facilities, dehydrating plant, etc., with discharging and loading facilities of the very latest type.

The purpose is to enable all classes of producers in Georgia to market their products to the greatest advantage and at the least possible expense, and to encourage the farmers in the diversification of their crops and especially in the cultivation of grains and the raising of live stock for shipment. A state wide educational program is expected to rally the farmers, miners, manufacturers, merchants and working men to the support of the project so that the General Assembly at its session next June will pass the necessary bills adopting the plan and

providing for the issuing of the required bonds.

The municipality of Savannah in the last few years has recognized that the period of almost exclusive private ownership of port terminals is drawing to an end and that state and municipal ownership and control must come. To this end the City of Savannah has purchased a very extensive property just below the city with a deep water frontage of three

miles and will utilize it for terminals and industrial sites. In the heart of the city it now controls a municipal dock with 1,000 feet frontage. Above the city it has another 1,000 feet frontage. Facing the city it owns half of an island with several thousand feet frontage. Savannah is accordingly well protected against any tendency to monopolistic control of its water front and is in position to meet all requirements as it moves on in keeping with its "manifest destiny."

Statistics in abundance might be supplied. I will close with but a few that are of a striking significance. In 1902 the tonnage of cargoes leaving this port was 1,500,000. In 1913 it was 3,100,000. The normal average freight tonnage for the few years prior to the war was 2,500,000 tons and the aggregate annual value of the commerce in and out of the port was \$500,000,000. In 1921, owing to the shrinkage in value and the general reduction in commerce, the values of our commerce totaled over \$360,000,000.

Steamships drawing thirty feet and over leave the port without trouble. The trend in recent years has been toward a type of vessels of greater draft and larger freight capacity and there is no doubt that Congress, which has generally appreciated the value of the port of Savannah to a vast expanse of territory using it as its entrepot, will make provisions for a further deepening of the channel from the city to the sea as the demands of commerce arise.

For Uniform Traffic Laws

A MOVEMENT likely to result in the enactment of uniform highway traffic regulations throughout the country is expected to develop at the approaching Thirteenth American Good Roads Congress and Fourteenth Good Roads Exposition to be held January 15 to 19 in Chicago under the auspices of the American Road Builders' Association. This subject is agitating the entire field of highway transportation and development at present and the indications are that it will be brought to a head through a proposal by President T. J. Wasser, of the road-builders' organization in his annual address, Tuesday, January 16. Mr. Wasser will propose joint action by the American Road Builders' Association, the American Society of Automotive Engineers, the American Automobile Association, the National Automobile Chamber of Commerce, the American Association of State Highway Officials and the United States Bureau of Public Roads and possibly other agencies,

with a view to working out a solution of the question along national lines.

The subject of Mr. Wasser's address will be "Highways—Their Use and Abuse." The road builders' president will discuss such questions as a more adequate width for roadways, marking roads with direction signs and numbers, gasoline filling stations, the billboard nuisance and uniform traffic rules and restrictions. At present, according to Mr. Wasser, each of the forty-eight states is operating its highways independently of the others and there is much conflict and confusion.

Eighty-five thousand invitations to the coming good roads Congress have been sent to state, county and city officials, highway contractors, engineers and good roads advocates generally. The mayors of five thousand American and Canadian cities and three thousand county boards of commissioners, selectmen, supervisors or freeholders have each been asked to appoint five official

(Continued on page 45.)

A Constructive Immigration Policy

Suggestions are made to the farmers that modifications should be made in the existing laws to afford immediate relief and at the same time maintain existing safeguards against the undesirable aliens

James A. Emery, General Counsel of the National Association of Manufacturers, talked of "The Problems of Immigration" before the convention of the American Farm Bureau Federation in Chicago, and suggested fundamentals which he believed should be considered in a constructive immigration policy and specific modifications he thought should be incorporated in the existing Act to meet the present economic situation. Mr. Emery's address follows.

AGRICULTURE and industry are equally interested in the social and economic problem of immigration. Each is feeling in an increasing degree a rising demand for labor to which, with a single exception, there has been substantially no foreign contribution in six years. Yet, neither agriculture nor industry desire to satisfy economic requirements at the expense of quality in citizenship. The problem, then, is to practically apply the rule laid down by James Madison in his famous report on immigration to the First Congress:

"Welcome every person of good fame that really means to incorporate himself into our society, but repel all who will not be a real addition to the wealth and strength of the United States."

We are a nation of immigrants and the descendants of immigrants. Mere prejudice against the man of foreign blood sits ill upon us, but it is equally true that we have learned that unassimilated immigration threatens national indigestion. We have established reliance upon immigration as the great source of supply for rough and skilled labor, without which the basic work of expanding construction, transportation, manufacture and agriculture cannot go forward. We therefore have an economic need, and must undertake to determine how to meet it without prejudice, and in the light of ascertained facts, but with a firm determination to admit only those mentally and physically sound, capable of citizenship and subject to control, during their alienage, by Federal authority, and receiving reliable information as to opportunities and education toward citizenship through private and public coöperation.

What, then, are the facts about our immigration; what is its nature and

amount; how are we presently undertaking to regulate it, and, if our present method is unsatisfactory, what constructive suggestion is to be made that may at once help us to meet economic necessities while protecting the quality of our blood and citizenship in the national interest?

Within a hundred years we have admitted to the United States some thirty-four and three-quarter millions of immigrants. Until 1890, the great portion of this foreign stream flowed from the Nordic countries and represented the strains which experience demonstrated to most readily accept our ideals and institutions, and adapt themselves to our customs and traditions and mode of life. During the next twenty-five years that preceded the Great War, the Slavic and Southern countries of Europe increased their immigration flow to a very considerable extent. Economically, the industrial, agricultural, transportation and mining development of the nation moved forward in continuing dependence upon an immigrant stream of willing laborers performing the rougher tasks which the native-born declined or were insufficient in number to meet.

The extent of this dependence is illustrated by an average annual immigration from 1909 to 1914 of substantially 925,000. Of this, the average annual number of skilled laborers was in excess of 115,000, common laborers more than 22,000, and farmers and farm laborers averaged over 250,000.

From 1915 to 1919, immigration was abruptly suspended by the great world catastrophe. During 1920-21, it again reached about 668,000. Alarmed by the well-founded fear that we were confronted with a serious invasion of undesirable aliens and unable to devise for the moment a constructive means to meet it, the Congress enacted, in 1920, a 3% limitation, which was pocket vetoed by President Wilson but eventually reenacted in May, 1921.

This proposal was not a substitute for the Act of February, 1917, but restricted the otherwise admissible aliens who might enter under it to 3% of the number of foreign-born persons of each nationality resident in the United States, as evidenced by the Census of 1910. Not more than 20% of such annual quota are admissible in

any one month. For the purpose of the Act, nationality is determined by the country of birth. Thus a white person born in Africa becomes an African, and for that reason white persons have been rejected because the African quota was filled. The restrictive provisions do not apply to the countries of the North American continent, but nevertheless include with the Asiatic barred zones substantially 75% of the earth's surface.

Thus, under the first year of the operation of this restriction, 356,995 aliens were admissible to the United States, of which number but 243,953 were admitted. The restrictive act does not, however, take into account in balancing its quotas the continuing flow of emigration. Thus, while many of the Northern European countries have not filled their quota, and most of the Southern European countries have, the net immigration is in favor of Germany, the United Kingdom, Mexico, Scandinavia and France, while Poland, Italy, Spain, the Balkan countries, Portugal and Lithuania had emigration in excess of immigration.

It thus becomes inevitable that, given substantially six years with little or no immigration and one year of severe restriction, we face an enormous diminution of our customary labor supply, reflecting itself throughout the industry, transportation, construction and agriculture. The first fiscal year of the operation of the 3% act leaves us with a net gain of male immigrant aliens admitted over male emigrant aliens deported, of but 6,518.

These facts are themselves the overwhelming evidence of a shortage in industrial and agricultural labor that must be steadily intensified and which, if unrelieved, must necessarily have the most serious economic effects.

The present Act penalizes any form of solicitation, inducement or encouragement of immigration except that skilled labor may be sought outside the country in individual cases, with the approval of the Secretary of Labor, upon proof that labor unemployed, cannot be found in this country. The provision offers no relief for the present shortage of unskilled labor and no procedure by which administrative remedy can be provided, however overwhelming the proof that immediate alleviation could be afforded by per-

mitting the admission of otherwise admissible aliens in excess of quotas, where the shortage can be demonstrated. Such relief, surrounded with appropriate safeguards, is immediately required. If such desirable and practical aid is not now permitted, the farms will suffer a still further shortage through the higher inducements of industrial labor, the cost of food-stuffs will increase because of contracted production and increasing expense, while skilled labor will suffer lessened opportunity for employment because of the shortage of indispensable preliminary labor to prepare basic materials and perform fundamental operations before craftsmen may apply their skill. The whole country will be affected by the situation if it is unrelieved, for steadily rising costs are inevitable in every field of employment, but particularly in agriculture and industry.

However vital the relief suggested, it is but a necessary makeshift. The time has come when the American people should turn their attention to the formulation of a constructive policy of selective immigration and abandon the present negative legislation which neither permits the satisfaction of economic requirements indispensable to national development or the effective control, education and distribution of the alien during the period of his alienage, or the application of practical tests for admission where immigration originates.

The time is too short for exhaustive discussion, but reason and experience are suggesting the means by which Madison's fundamental formula may be given practical application. Is it not worth while to consider an immigration policy that will:

1. Distinguish between requirements for admission and naturalization, applying the tests for the former through our own officers at the point where passports are viséd, or at least at the point of debarkation. The tests of admission to exclude, as we do now, the diseased, the defectives, the criminal, the enemies of all countries and of this Government, but abandoning a literacy test vetoed by three Presidents, which the Lenins and Trotskys of the world pass with ease, and which are mere evidence of original handicaps and are neither mental nor moral tests of capacity for citizenship. Had they been applied to the ancestors of our most useful and illustrious citizens, we should never have heard most of their names.

2. The United States should assert the right to register, supervise, educate and distribute the alien during the period of his alienage and to adminis-

ter its law through a board, including the Secretaries of Labor, Commerce and Agriculture, thus assuring a co-ordination of the departments most vitally interested and most widely and accurately informed respecting the economic requirements and opportunities of the United States. Emphasizing the importance of the problem and securing the coöperation of the states and private organization, such a plan would assure the compilation and analysis of the most accurate information continually renewed. It would guide a broad, sympathetic, informed policy, assuring at once a scientific and systematic assembly of national needs, generous consideration for the opportunities of the alien and effective protection of the national interest through the admission of those capable of citizenship, and their preparation for induction into it under uniform Federal law.

But, important as is the adoption of a constructive policy of selective immi-

gration, the nation, starved of its customary labor for more than five years, needs now immediate relief that will meet demonstrated economic necessity while maintaining the existing safeguards against undesirable aliens.

To this end, Congress ought at once to modify the existing Act by:

1. Permitting ascertained emigration to be charged against ascertained immigration in determining national quotas.

2. Authorizing the Secretary of Labor to admit otherwise admissible and desirable labor in excess of quotas where the necessity for such labor is clearly demonstrated and it is not obtainable in this country.

3. Authorizing the Secretary of Labor, in conjunction with other appropriate officials, to immediately provide, as far as practicable, for the determination of the admissibility of aliens at the point where their passports are viséd, or at least at the chief port of debarkation.

Bolivia in Fine Shape

DAYLE C. McDONOUGH, U. S. Consul at La Paz, reports that the general business prosperity of Bolivia continued through November, and largely for the same reasons. These were the high price of tin and a rising exchange. The average rate for the boliviano during November was 3.08 for dollar exchange, as compared with 2.28 for October. An additional favorable indication is the drop in the local interest rate to 7 per cent.

A considerable increase in exports of metals was noticeable during the past month, statistics for certain mineral shipments following: Tin concentrates, United States, 1,397 metric tons; France, 151; and Great Britain, 3,442 metric tons. Total silver exported was 2,059; bismuth, 62; copper, 2,784; and lead, 565 metric tons.

It is stated that unless the 7,000 workmen employed in the copper mines agree to accept a substantial reduction in wages these mines will be obliged to close down.

The import market has prospered to such an extent during recent months that overstocking is regarded as one of the possibilities for the early part of the new year. The market for cotton goods continues excellent and imports of flour were large, the principal part coming from the United States. Sugar imports from Peru have remained normal. China was the source of a shipment of 500 tons of rice, which ar-

rived during the month, an important consignment for Bolivia.

Although the importation of many iron and steel products was inactive, there was a revival in the market for mining machinery and supplies, and the market for explosives also improved.

Speaking generally, it can be said that the high price of tin made the prosperity of the mining industry during the past month. While there was no material change during the latter part of November, a slight falling off in prices was observable.

In order to complete the railroads now under construction more money is needed, and efforts are being made to consummate an additional loan of \$7,000,000. New York bankers have an option on this loan, which is the last part remaining unsubscribed of the \$33,000,000 loan described in previous cables. This money is to be raised through the sale of Bolivian Government bonds, which are to be taken by the company underwriting the loan at 93.

Republic Cotton Mills will shortly start construction of a new \$1,500,000 plant at Great Falls, S. C., to contain 1,000 looms.

W. B. Heriet will open a plant in Saluda, N. C., in January, for the manufacture of shirts, overalls and gloves.

Arbitrating The Trade Disputes

New Commercial Court in New York State, established to relieve the regular institutions of great accumulation of legal disputes, is finding a short cut for ending quarrels of many years' standing

Written especially for AMERICAN INDUSTRIES

By MOSES H. GROSSMAN

Vice-President and Founder, Arbitration Society of America

EVERY year, thousands of people experience irritation and annoyance as a result of the law's delay. Many form adverse opinions of the courts because of their experience. The litigant, who has waited two or three years for his case to come to trial, thinks that his time and money have been wasted in meaningless formalities, especially if one of his witnesses has died or disappeared in the meantime or his own recollection of the events has passed away.

The blame, however, rests not with the courts but with the litigants themselves. How many persons realize that courts of law which ought to be utilized for the purpose of determining questions of law, are being cluttered up with all sorts of actions that involve no questions of law whatever? Many of the cases entered on the calendars are simple partnership disputes, breaches of contract and the like—matters that relate merely to questions of fact or of trade customs.

The condition has become acute. On the nineteenth day of January of this year there were 24,000 cases on the calendars of the New York Supreme Court. That court has twenty-eight judges, one to every 80,000 of the population, as provided by the Constitution of the state. The capacity of that court is about 8,000 cases a year. Thus, it becomes apparent that with 24,000 cases on the calendars it may take from two to three years for a case to be brought to trial.

People have been heard to say that the old traditions should be eliminated, the formalities dispensed with and justice speeded up. They forget that our courts were created to work with deliberation and that the best interests of the commonwealth demand that our judges carefully weigh, analyze and sift the evidence and prepare well-reasoned and learned opinions and decisions, which ultimately become precedents and guideposts for future litigation.

Who will say that painstaking care, study and research are not needed now more than ever before? Difficult social, industrial and economic questions are cropping up and if these are to be determined wisely we must have

judges who possess a profound and critical knowledge of the law and we must give these judges time to apply that knowledge to actual cases. Only



Moses H. Grossman

by taking from their shoulders the great mass of actions involving pure questions of fact and referring them for prompt determination to the unfettered common sense of the laymen can this be done.

We already have the groundwork for a new and supplementary system of administering justice which, if fully availed of, would relieve the regular courts of much of their pent-up litigation and leave them freer to handle important matters of public policy and important and intricate questions of law. I have in mind the machinery for arbitration now available, and which in New York State at least, as a result of a statute amended in 1920, provides a means for determining outside the courts of law, practically any action, except criminal and divorce matters, speedily, inexpensively, and with finality.

That statute provides that in case of any dispute the parties may agree on one or more men or women to determine the issue. They may, under the law, invest these men or women, for the purpose of the particular case, with many of the powers of a judge. The arbitrators can issue subpoenas and bring in witnesses, books and

papers. They can render and sign decisions and awards which the courts confirm into judgments, and these judgments become final and conclusive and will be enforced as any other judgments in a court of law.

As a result of that statute, arbitration has been given an altogether new status in New York State, for no longer can arbitration be instituted in conjunction with a dispute and then discarded willy-nilly at the whim of one of the disputants. Now, when an arbitrator renders a decision, it becomes binding. That decision will not be reviewed in the regular courts in the absence of corruption, malfeasance and misconduct.

To take full advantage of the provisions of the New York statute, there was recently launched the Arbitration Society of America, composed of distinguished judges, lawyers and business men. The Society has established a Tribunal of Justice, open to the public and to the trades for the determination of controversies of all kinds, excepting criminal and divorce matters.

Many cases already have been heard in this Tribunal. Disputes which would have dragged through the courts for two, three or four years have been determined there in a day or a week at a cost which, in each instance, has been nominal. What is more the work of this court has been marked by the absence of red tape of any kind.

Let us contrast the operation of this tribunal with that of a regular court of law. A dispute develops between a manufacturer and a dealer. In its final analysis it is nothing more or less than an honest difference of opinion regarding some transaction. If taken into court, the chances are the manufacturer will lose a customer, no matter what the outcome of the case may be; both will have to wait two or three years for the issue to come to trial, and, in the end, both will wonder why they went to court at all.

Suppose the dispute relates to a transaction involving the sale of 100 or 1,000 cases of tobacco which were rejected by the dealer on the grounds that the tobacco was not the kind he

ordered. When the dispute finally comes up in court, the plaintiff has three or five witnesses who will swear that the tobacco delivered was the same as ordered. The defendant will have three or five witnesses who will swear that after their examination they can testify that the tobacco was entirely different. The case is then submitted to the jury.

What conclusion will the jurors reach when, having retired into the jury room, they consider the evidence. They will say that here are three experts on each side—three say it is the same tobacco as ordered and three say it is not the same. The evidence is equally balanced. They cannot render an intelligent verdict and yet they are forced to do so.

Here is how the dispute would be determined if submitted to the arbitration tribunal. After agreeing in writing to the settlement of their controversy by arbitration, the disputants would select an arbitrator or arbitrators or request the society to name them. The arbitrator would be a man of standing and integrity who possesses special knowledge of the tobacco business. Each disputant would tell his story in his own way, there being no ban on any evidence deemed material by the disputants themselves. After hearing the evidence the arbitrator would render a decision in writing which would be binding and final. The entire proceedings would consume probably not more than a day or two days—certainly, not more than a week—and the cost would be trivial as compared with the cost of an action in a regular court of law.

Where an issue depends upon a question of trade custom or practice no high priced expert witnesses are needed. The arbitrator, by writing to the leaders of the trade, can easily determine what the custom actually is. The cost would be a mere matter of postage, but the truth of the matter would be established beyond possibility of doubt or question. All the world knows what expert testimony, adduced in a suit at law is, what it costs, what it breeds of confusion in the minds of a jury, and how it militates against the administration of real justice.

Lawyers are not indispensable to the operation of the tribunal. Disputants may conduct their own cases, or they may employ lawyers in order to insure a more helpful presentation of their contentions, but the choice of methods rests entirely with the disputants. These disputants know that, if the hearing involves a revelation of trade secrets or confidential matters, there will be no damaging publicity—no publicity at all, if they agree to acquiesce in the award of the arbitra-

tor, so as to avoid the necessity of entering a judgment.

The society charges only a nominal fee for the use of the rooms, equipment, and services in securing arbitrators, conducting the hearing, etc., etc. The society, its officers, or its members cannot profit financially through, or by, the activities designated in the articles of incorporation. Its legal status, as a "Membership Corporation" under the laws of the State of New York, is based upon the performance of a public service, without financial profit to officers or members. Fees collected are applied toward extending the work of the society.

A splendid reception was accorded the new society and its tribunal. Judges of our courts, lawyers of assured standing, and leaders in the business world have all approved of it warmly.

Many trade and commercial organizations have adopted resolutions of endorsement. Some have affiliated and have taken steps to have their own boards of arbitration function in cooperation with the tribunal society believing that in this way bigger and better results can be achieved in the cause of speedy and economical justice than would be possible through the work of these unrelated boards, each operating independently within the restricted limits of a single trade.

The tribunal differs from the arbitration boards of the various trades in that it is not restricted to any one class of controversies or to any one trade. Justice Charles L. Guy, of the Supreme Court of the State of New York, has stated that the difficulty heretofore with arbitration has been the fact that boards were created from a single line of industry and that there has been no common meeting ground where disputants from different fields of business could determine their differences.

"There is no doubt" he said, "that the tribunal can be made a splendid board of arbitration representing practically every industry—a board before whom men not only in one line of business but men dealing with others in different lines can come to have their question of fact determined.

"Instead of hampering the courts in any way it is going to be of tremendous benefit in improving and relieving the machinery of the courts and it is going to be of the utmost benefit to the business men who cannot afford to have their time and their patience exhausted in litigation which may take three or five years before a matter is finally determined."

The activities of the society will not be limited to New York City or to the state. The society will endeavor

to spread the principle of arbitration throughout the country and to educate the public in other states as to the benefits to be derived through the kind of arbitration now possible in New York.

Representatives of the society are addressing groups of business men and appearing at public meetings. An effort is being made to develop the coöperation of all trade bodies to the end that a more intelligent understanding of the practical value of commercial arbitration may be created and the existing and properly functioning arbitration boards, especially those maintained by trade organizations, more generally utilized.

With the coöperation of business bodies and public-spirited organizations generally the society will conduct national activities in the interest of the enactment of a uniform arbitration act by all of the states as well as the enactment of a law by Congress making all agreements to arbitrate binding in such matters as come within the jurisdiction of the Federal courts, while giving to the decisions of the arbitrators the same finality as is provided by the New York State statute.

A proposed tentative uniform state arbitration act has already been outlined by the society. Its provisions follow:

I. Arbitration Agreements.

A provision in a written contract to settle by arbitration a controversy thereafter arising between the parties to a contract, or a submission hereafter entered into between two or more persons to arbitrate an existing controversy—shall be valid, enforceable and irrevocable.

II. Matters to be Arbitrated.

Any controversy or dispute which might be the subject of a court action—except criminal or divorce matters—may be submitted to arbitration.

III. Effect of an Award.

A judgment of a court of record may be rendered upon the Arbitrator's Award, and it shall have the same force and effect and may be enforced as a judgment in a court action.

IV. Remedy in Case of Default.

A party aggrieved by the failure, neglect or refusal of another to perform under a contract or submission providing for arbitration, may obtain from a court of record an order summarily directing that such arbitration proceed in the manner provided for in such contract or submission.

V. The Naming of Arbitrators.

The method of naming or appointing the arbitrators may be provided for in the contract or submission, but if no method is provided they shall

(Continued on page 40.)

Fifty-Seven Varieties Of Food Laws

Troubles of the oleomargarine men are particularly burdensome and the strict observance of some regulations immediately becomes a violation of the Federal or contiguous State statutes

By J. S. ABBOTT

Secretary, Institute of Margarin Manufacturers

PRODUCERS, those who sow and reap, manufacture and sell, expect food control officials to possess those qualifications that have been set down by all great thinkers as indispensable in all good public officers and to enforce the laws which they are commissioned to enforce in harmony with such qualifications. The qualifications which William Penn said public officials should have are "ability, honesty, dispatch, patience and impartiality." His opinion is perhaps a good "composite" of the opinions of all great thinkers. "A ruler who appoints any man to an office, when there is in his dominions another man better qualified for it, sins against God and against the State," is a maxim of the Koran. President Wilson once remarked rather humorously but philosophically that all any man can do in the appointment of public officials is to appoint the best men he can find and then watch and see whether they grow or just swell up. Officials selected with these considerations in mind will enforce the laws in harmony with the sound American Doctrine of a Square Deal which was emphasized by that distinguished American citizen, Theodore Roosevelt. He put that doctrine in the following language:

"In a Republic such as ours the only safety is to stand neither for nor against any man because he is rich or because he is poor, because he is engaged in one occupation or another, because he works with his brains or because he works with his hands. We must treat each man on his worth and merit as a man. We must see that each is given a Square Deal, because he is entitled to no more and should receive no less.

"We need to keep in mind that he is the worst enemy of this country who would strive to separate its people along the lines of section against section, of creed against creed, or of class against class."

On the matter of ability, food control officials entering upon their official duties are expected to grow rather than to just swell up. According to William Penn, "he that understands not his employment, whatever else he knows, must be unfit for it, and the public suffers by his in-

competence." A food official once remarked in my hearing that he felt very incompetent in the performance of his duties. He had not had time to get more than a very superficial knowledge of the thousand and one different kinds of industries which he was commissioned to supervise. He was, he said, like a Georgia fish pond, covering the whole world and not knee deep anywhere. It is a big job for anyone to learn what is necessary for a food official to know about these numerous industries. The more he knows about them and about the men who are running them, the saner he will be in his evaluation of business men and the less bureaucratic he will be in his administration of the laws.

The growth of officials will be healthy and vigorous in proportion to the degree of coöperation between them and the trade as well as between each other. The trade expects officials to meet it half way. When such coöperation gets under good headway it will soon be learned that officials are not the only citizens rendering a public service. The trade is rendering just about as valuable a public service as that which public officials in any capacity are rendering. Those who sow and reap, manufacture and sell, are just about as important units in a body politic as those who are employed by the state, especially so in this age of a very great division of labor.

It is not enough that food control officials know the composition of foodstuffs and the manufacturing process used in their preparation for market and for consumption. It is not enough that they know the nomenclature, technical and current, used in their identification. It is not enough that they know the particular laws that they have to enforce. These requirements of them are matters of course.

There was a time, however, when a food official felt that he had performed his whole duty whenever he had driven a carload of adulterated foodstuffs out of his own state or district regardless of how many American citizens in other jurisdictions were injured or defrauded by it. There was a time when an official who had discovered that a particular dairy was

the source of a diphtheria epidemic would stop the sale of the milk in his own jurisdiction and consider it none of his business where such milk went or whose lives it endangered outside of his own bailiwick.

But a broader conception of his responsibility now obtains and a sane official knows that if he helps his neighbor official to protect his neighbor's tribe he may in turn receive help from his neighbor in the protection of his own tribe. A knowledge of the laws and of the difficulties and requirements of marketing foodstuffs throughout the length and breadth of our entire country is highly important to those who want to administer laws with the greatest good to the greatest number and with justice as well as with vigor. The importance of such a knowledge of laws and regulations could be illustrated by almost any man in any industry in this country.

There are many state and federal laws relating to the manufacture and sale of oleomargarine. They would make a volume. And the regulations for their enforcement would make an encyclopedia. There is the federal Oleomargarine Law, administered by the Bureau of Internal Revenue of the United States Treasury Department. There are several revenue laws relating to the levying and the collection of taxes, affecting it and administered by the same bureau. There is the Federal Meat Inspection Act, administered by the Bureau of Animal Industry of the United States Department of Agriculture. There is the Federal Food and Drugs Act, administered by the Bureau of Chemistry of the same department. There are the oleomargarine laws and the general food laws of each of the several states of the United States (with only a few exceptions), administered by food, dairy, and drug officials. Some of these oleomargarine laws are actually administered by officials who are by law commissioned and directed to promote the development of industries in competition with the oleomargarine industry.

More than 95 per cent of the oleomargarine manufactured is now packed in cartons. The labels of every one of these cartons have been approved by the Bureau of Internal

Revenue. Every one that is used for packing oleomargarine containing any animal fat has been approved by the Bureau of Animal Industry and bears the legend, "U. S. Inspected and Passed by the Department of Agriculture," which means that every ingredient of the product as well as the buildings in which the product is made comes up to the requirements of the federal government.

If a margarin manufacturer does not do what either one of these government bureaus tells him to do, the bureau can close up his factory without a trial by a judge or a jury. The Revenue Bureau requires of wholesale dealers in and manufacturers of oleomargarine a report of what amounts to a copy of the invoice of each and every shipment of oleomargarine manufactured or sold by them, that is, the name and address of the consignee and the quantity shipped. The federal government in other words controls the manufacturing and labeling of oleomargarine and follows it right down to the small retailer who is also under license and consequent rigid control. The federal government even requires manufacturers to report monthly the kinds and the quantities of the several ingredients used in making the product.

The Bureau of Internal Revenue has a regulation to the effect that no sign or device or word can be put on a shipping case of oleomargarine unless the word oleomargarine appears underneath it. We are not permitted to put the word oleomargarine above it, or to the left of it, or to the right of it. If we put the word oleomargarine underneath it, we are under certain circumstances, required by the Bureau of Animal Industry to print other matter with it. By the time we comply with all the regulations concerning it, it would be just about as visible as a black cat in a midnight storm.

Again, not a single pound of oleomargarine can be removed from a shipping case except and until it is sold and ready to be delivered to the purchaser. The dealer will not put the whole case into a small refrigerator to protect the goods. He is not allowed to take out the unit carton packages as he does butter packages and put them into the ice box. So he either will not handle oleomargarine or he lets it stay out on the counter with the crackers.

The margarin industry is on record in favor of a retail package, and no other, sealed with a revenue stamp so that this difficulty of marketing can be obviated. But we have been unable to get a Committee of Congress to give us even a hearing for such relief.

For many years the federal government required retail dealers in oleomargarine to put the word oleomargarine, the net weight, and the name and address of the retail dealer on the paper bag or on the sheet of wrapping paper used by the dealer for wrapping oleomargarine for the customer. This was so even in cases of prints of margarin in cartons, which cartons, the Bureau of Internal Revenue now requires and always has required to bear a statement of the net weight and the word oleomargarine. Such a duplication of statements was clearly an unnecessary and troublesome expense. It cost the margarin industry \$50,000 or \$60,000 per annum, and did not help anybody but the rubber stamp manufacturer. Three states still have the requirement, but it has been abolished by the Federal Government.

The State of Iowa says we must label oleomargarine with the words, "A substitute for butter." Minnesota next door has made such a label unlawful in its confines. You can imagine how difficult or annoying it is to a wholesale dealer in oleomargarine in Keokuk to comply with the laws of both states. If by chance a careless shipping clerk ships the wrong package into one of these states, a dealer is prosecuted and convicted and branded as a bad citizen and every dairy journal in the land features the case as an indication of what a bad set we are.

The oleomargarine industry is even prohibited by the laws of some states from telling what oleomargarine is. Notwithstanding the fact that there is not a pound of oleomargarine advertised in this country but what milk, or skimmed milk, or butter or two of these foodstuffs, as well as wholesome edible fats and oils are used in its manufacture, some states make it unlawful to advertise this fact. We have actually been prosecuted for using the word "churned" in advertising our product, notwithstanding the fact that we put ripened milk and fats and oils in a sure enough cow churn and turn the churn until the mixture is what is called oleomargarine. The laws do not provide that we shall not use such terms in a way that is false or misleading. That would be a perfectly proper provision. They provide that we shall not use them in any manner. One of the states that has such a law has another law requiring us to name the ingredients on the label of oleomargarine. If we comply with one of these laws we violate the other and are advertised as crooks.

If everything were put on a package of oleomargarine that is required by the various states and by the federal government, you could not tell it from

a Chinese rebus. It is impossible for any margarin manufacturer doing business in every state in the Union to use a standard container.

But what is the answer and what have food control officials to do with these conditions? On the theory as set forth in the first part of this article that officials are able, honest, and impartial, that they do not represent any class or creed or sect, that they give every man a square deal, that they do not oppress a legalized industry helping to market agricultural products in a palatable and wholesome form, they should have and do have much to do with such laws and regulations, not only as they affect the oleomargarine industry but as they affect every other food industry in this country. In many places food officials have actually and properly drafted some good and wholesome bills that have been enacted into law on their recommendations. Their counsel is always desired and earnestly sought by lawmakers, state and federal, in all matters relating to food control. They and those who have gone before them are responsible for many of these laws and regulations. And they will continue to wield, and very properly so, a powerful influence in this particular field.

The important question to the trade is, "How can these laws and the regulations for their enforcement be made effective and uniform, or at least unconflicting?" In my humble opinion there is but one answer. I have given it and repeated it so often, as an official and as a member of The Third House, that I hesitate to do so again. It is "*coöperation between food control officials and the trade.*" And I know of but one way for these two groups to begin functioning with the hope of reaching such a goal. You can invite the trade associations of all or of the important food industries of this country to prepare briefs for you on "The Difficulties of Complying with the Food Laws of this Country." Ask them to write such briefs in plain English language, pointing out comprehensively, as I have tried to do very briefly for illustration, the conflicting and useless phases of law and regulations that work an actual, not a theoretical hardship, on industry without any consequent protection whatever to the consumer or to government. Then appoint appropriate committees of your fellow officials to study such briefs and report back to you their findings with their recommendations. The industries can publish such reports if you cannot and make them a part of the literature on this great problem of *Food Control*. Information of this
(Continued on page 26.)

Our Business Dominions--Philippines

Government strong and stable, business on a sane plane, labor efficient and plentiful, people fairly contented and Americans interested in many of the greatest and most successful projects

Written especially for AMERICAN INDUSTRIES

By VICENTE VILLAMIN

Secretary, Philippine-American Chamber of Commerce

THE American flag was unfurled over the Philippines nearly a quarter of a century ago. It has meant progress and contentment to a worthy and aspiring people. Indeed the work of America in the Philippines carries a patent of nobility.

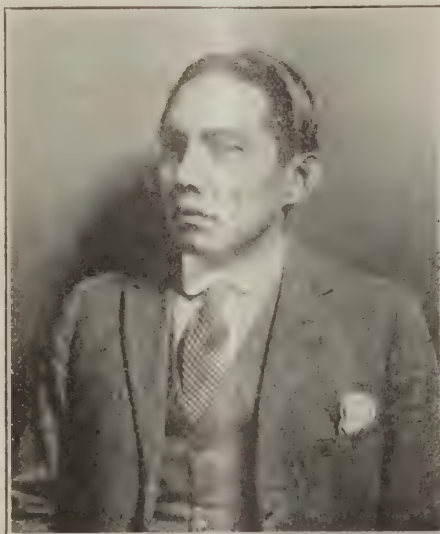
The Philippines is verily a lucky country. Nature has favored her with rich and varied natural resources; and the United States Tariff Law admits her products to her best and biggest market free of the high duty that is levied on her competitors. This law, by the way, is the compendium of opportunities for the Philippines and should find its place in the curriculum of the schools. Therein may be learned the deep romance of the life of a country in the community of nations.

The country produces hemp, sugar, coconut oil, copra, tobacco, lumber, gums, shells, medicinal plants and other tropical products; and has rich deposits of gold, silver, copper, iron, manganese, coal, asbestos, guano, phosphates, sulphur, mineral waters, petroleum, gas, cement and salt. The industries are fairly developed while the mineral resources are but scantily exploited. It is interesting to note that approximately 70 per cent of the country's area is public domain and that but a small fraction of the arable lands is under cultivation. Capital is the open sesame to bigger production and the entry of more of it is the most welcome thing.

The configuration of the country has many natural advantages. Its contour is such as to render access to seaports easy; and its division into more than 7,000 islands simplifies the problem of transportation. The country is covered with a net-work of 6,000 miles of good roads, of which 3,000 miles are classified as first-class. The net tonnage engaged in ocean shipping is in excess of 1,200,000, of which approximately 700,000 fly the American flag. It is significant that freight rates to Manila from the United States are lower than to Honolulu despite the farther distance of the former of more than 4,000 miles.

The Philippines is at the focal point of the trade highways to the great and

growing markets of the East. And Manila, situated on the land-locked bay where Admiral Dewey made naval history, bids fair to be a leading entre-pôt



Vicente Villamin

of the Orient. Within a radius of 1,700 miles more than 125,000,000 people live; and within 3,500 miles dwell more than one-half of the world's population.

America found in the country a people who for three centuries had been under the influence of Western civilization. Spain had done so much for them. Their standard of living is high in that part of the world, and their individual buying power higher than any people in the Far East. A large proportion of the population own their farms; Government efforts are being directed to the extension of this condition. Filipinos are partial to America and to American undertakings. This is, of course, only just and natural. Ten million souls regarding America as their real friend is not a negligible asset either in war or in peace.

The Government's strong and stable. Liberalism and progressiveness are the keynote of the situation. The universal tendency to too much government was evident at the outset of things but its progress has already been arrested and stayed. The laws are generally helpful and are further liberalized as

conditions warrant and the necessity for desired legislation is pointed out. Tax burdens are surprisingly light and their distribution fairly equitable. Labor is plentiful and fairly efficient, Filipino workers being known for their industry and loyalty.

America has always sent her good and able citizens to administer the affairs of the country in collaboration with the Filipinos themselves. The present Governor-General, Leonard Wood, has added, by his highly constructive work, new lustre to America's name overseas and accentuated the cause for gratitude of the Filipino people to America. His predecessors, high-minded and noble Americans, one and all, have aided immeasurably in the upbuilding of the country. Their only rivalry was in who could do more good to the people of the Philippines.

American capital has been a big factor in the economic and social development of the country. Considering, however, the tremendous investment possibilities the country offers, its aggregate amount is not such as to awe even the possessor of the timid dollar overmuch. It is suggestive, nevertheless, of a tendency that flotations of Government and private bonds in the United States financial markets at low domestic rate of interest are absorbed promptly. Governor-General Wood, in his message to the Legislature, this year, emphatically declared that foreign investments in the Philippines are safe, in fact, safer than in many older countries. And this is so not because of the Army and Navy or the proverbially busy Marines.

It is worthy of note that the Philippine Government is presently embarked upon a remarkable program of Government ownership and operation—controlling the Philippine National Bank and the industrial concerns that it created, owning and operating 800 miles of railway, exploiting natural resources and, through the Philippine National Development Company, participating in the commercial and industrial activity of the country. General Frank McIntyre, chief of the Bureau of Insular Affairs in Washington, than

whom there is no better posted man on the Philippines, in his report to the Secretary of War, stated that these private and quasi-public enterprises were undertaken by the Philippine Government only after prolonged efforts to interest private capital had failed; that the purpose was to cooperate with, not to obstruct, private enterprise; and that the Government, in furtherance of this idea, was eager to show what could be accomplished becoming the pioneer itself and assuming all risks in the work of discovery. That these were the actuating motives is accepted in all quarters without cavil. The relaxation of Government control as rapidly as conditions permit and public welfare demands is the present policy. I trust I have not made any suggestion here that business in the

success is a credit to American enterprise outside of continental United States and incidentally constitutes a definition of efficiency and square-dealing. Charles Swift, president, and John H. Pardee, president of the management corporation, are leading personages in Philippine affairs.

A tremendous mercantile organization that brought in men and money in plenty is the Pacific Commercial Company. This concern imports more than any other firm in the country and is among the largest exporters of Philippine produce. Its sales organization is the most thorough-going in the Far East and its advertising campaigns, which ranged from outright selling to instructing the public in forming corporations, securing franchises, conducting commercial operations, and such

staples at points of production of the latter, the company operating half a dozen launches and schooners for the purpose. The concern also owns sugar centrals, tin, cigar, button and candy factories. With the rehabilitation of economic conditions the Pacific Commercial Company is entering upon a life of great activity. Able Americans like Edward B. Bruce, John M. Switzer and Horace Pond direct the destiny of the company.

One of America's foremost and conservative international traders, Henry W. Peabody and Company, did substantial business in the Philippines even before American occupation. The International Harvester Company is represented by Macleod and Company, which it controls. The Macleods have been in the country for more than three decades and have established a prosperous business in hemp and shipping. William S. Macleod, the representative of the company in New York, is an authority on things Philippine and is known throughout the country.

Admittedly one of the most successful business men in the Islands is William H. Anderson, a West Point graduate and a man of affairs. His firm, imports almost exclusively from the United States. He is financially interested in the important firm of Catton-Neil and controls the electrical establishment of Erlanger and Galinger, which is one of the biggest of its kind in Manila. Heacock and Company imports jewelry, silverware, watches and clocks while Squires-Bingham brings in the sporting goods and camera supplies. The Philippine education is the book emporium of the country and Frank and Company leads in office equipment and supplies. Levy Hermanos sell two most expensive things: diamonds and cars. Velasco & Company, Siglo XX and Brias-Roxas have department stores.

E. C. MacCullough, who started in an humble way in the early days of American occupation, is a most successful and substantial merchant. Walter E. Olsen, who started with a corner cigar stand, became one of the largest exporters of cigars to the United States.

The Philippines has a natural monopoly in hemp fiber. Extensive experiments to grow the hemp plant in other tropical countries have failed thus far. It is not competed against by any other fiber; its use in rope manufacturing cannot be well displaced. The market for this staple is world-wide. There is growing a local industry of making rope for export. The Filipino enterprise of Feliciano Sisters is the pioneer in this. Johnson-Pickett and Ynchausti are manufacturers of rope.



Pier and warehouses of the Pacific Commercial Company

Philippines is hampered in any way by Government activity for the Philippine Government is in fact most liberal to private undertakings.

Among the first who have shown their faith in the future of the country were the men behind the Manila Electric Company. They have seen their judgment decisively upheld by the signal prosperity of the enterprise and the very high regard in which it is held by the public. This firm owns and operates some fifty miles of electric trolley, provides the lighting of the city and furnishes power to the plants in and around the city of Manila, which is both the commercial and industrial center of the Philippines. Its

like, has been a great factor in bettering the standard of living.

It opened stock depots in centers of population all over the archipelago and instituted a system of more direct dealing with the consumer. This scheme in a country like the Philippines must eventually develop into an institution that will make for efficiency in service and reasonableness in the cost to the consumer. The country knows the Pacific Commercial Company as the biggest distributor of imported merchandise, its brands already being household words in every nook and corner of the archipelago. One interesting feature of its activity is the trading of imported goods with Philippine

The partnership firm of Hanson & Orth is an important exporter of hemp fiber. Its head, Charles D. Orth, is vice-president of the Philippine-American Chamber of Commerce. The Columbian Rope Company has a buying agency in Manila. The Plymouth Cordage Company is the biggest consumer of Manila hemp in the United States while the Whitlock Cordage Company specializes in Manila rope. As if to honor the premier industry of the country the local American Chamber of Commerce elected a hemp man as its first president; the honor, however, was passed on to a shoe merchant, a former postmaster of Manila. Captain C. H. Heath, was the first president.

The Philippines produces approximately 250,000 tons of sugar when it can produce ten times that amount easily if sufficient capital were available. There are modern sugar centrals which put out last year the sugar that tested the highest degree of polarization of the centrifugal sugar imported through the port of New York from different countries. The acreage suitable to cane planting is bigger than in Cuba. The soil is as rich and the climate as equable. Cuban sugar enters America with a duty; the Philippine is admitted free. Efforts are already being put forth to develop the industry and to increase the production. Capital is coming. The recent oversubscription in San Francisco of the \$1,250,000 preferred stock of the Calamba Sugar Estate is a forceful evidence that capital is getting acquainted with the prospects in the Philippines.

Among the important factors in the sugar industry is Welch-Fairchild and Company and its affiliated interests. They own sugar centrals, operate the



The Pacific Building at Manila

Hawaii-Philippine mills and manage the Mindoro Sugar Company, the last-named company owning extensive sugar plantations on an island about a hundred miles from Manila by water. Charles J. Welch, the head of the concern, is the president of the Philippine-American Chamber of Commerce while George H. Fairchild, was at one time a sugar man in Honolulu and a member of the Hawaiian Territorial Senate. The concern has the backing of the Havemeyer interests of New York.

The sugar plantations are almost all owned by Filipinos. Several centrals are controlled by them. Among the important factors in the industry are Esteban de la Rama, Jose Ledesma, Justo Javellana, Ruperto Montinola, the Pampanga Sugar Co., R. Renton Hinds, the Tabacalera, Smith, Bell & Company, Warner, Barnes and Com-

pany and the Philippine National Bank.

The cocoanut oil industry is hardly ten years old, yet the Philippine mills furnish the great bulk of the requirements of the soap, margarine and lard substitute industries in the United States. Inefficient and surplus mills are being dismantled and the industry is getting on solid basis again after the blow it received during the slump of the last three years. Carl Hamilton, who made oil history in the Philippines and aided greatly in the establishment of the industry in the country, and Dean C. Worcester, have incorporated a firm to engage in the cocoanut plantation business on a big commercial scale. The Lord Leverhulme interests of London now control three oil mills in the Philippines. Among the Filipinos who were active in the industry and amassed big fortunes are Gergorio Araneta, Francisco Ortigas, V. Singson Encarnacion and Mauricio Cruz.

Franklin Baker, of Philadelphia, has recently started a dessicated cocoanut factory. This product is protected by a heavy duty. Ceylon is the source of the bulk of this product which is used in the confectionery industry. There is a demand for cocoanut shells as well as for the husks.

The Philippine Refining Corporation, Derham Brothers, the Tabacalera and Stevenson & Company are among the most important manufacturers of cocoanut oil.

The cigar and cigarette industry is well organized and developed. The city of Manila manufactures more cigars than the city of Havana, in Cuba. Every precaution is taken to insure satisfactory output, the Government maintaining a system of inspection at the source and at point of destination. In the United States, Charles



Typical Manila cigar factory



The Cristobal Oil Mills

Bond and David Morris, two very efficient and faithful government servants, look after the interests of the industry. In Manila the factories employ around 20,000 workers. The American demand for Manila cigars is steadily increasing. The Germinal, an all-Filipino concern, managed by Mauro Prieto, is one of the best known enterprises and has succeeded in building brands in this market. The Tabacalera, La Insular, Manila Commercial, Maria Cristina and Samson Hermanos are among the largest manufacturers and exporters of cigars. No industry has such limitless possibilities as the tobacco industry. The growing of wrapper tobacco, which is protected by a heavy tariff, is one of the most excellent opportunities in this line. Only an infinitesimal fraction of suitable lands is under cultivation on account of want of capital.

In mining and dredging there is considerable activity and results have been flattering. In no field has conservative capital a greater prospect than in its employment to disembowel the rich mineral deposits of the Philippines. Disinterested experts declare that the biggest gold dredging area and the richest placer grounds combined with the easiest methods are located in the Philippines. The Gumaus dredge during four and one-half years' operation averaged 37c. a yard for every yard of dirt handled, which is far and away greater than any known record anywhere. August Heise, a mining engineer of international experience, built the first quartz mill in the Islands and is among the most instrumental in bringing into existence the mining industry on a paying investment basis. Frank B. Ingersoll, long identified with the industry, formulated most of the mining legislation of the country; while Henry B. McCoy heads the Colorado Mining Company, one of the highest dividend-paying concerns in the Philippines. In the temperate regions of central Luzon the Benguet Consoli-

dated and Mining Company owns valuable properties and reports great prosperity.

The lumber industry is rapidly gaining in importance. America is getting acquainted with Philippine woods and is demanding them in constantly increasing quantity. About 60,000 square miles of the area of the country is covered with virgin forest which is estimated to yield 192,000,000,000 board feet of the finest and most durable wood known. About three-quarters of the trees in these vast forests are of the dipterocarp family, generally known in the United States as Philippine mahogany. American sawmills and equipments are in operation and are giving satisfactory results. Tuason-Sampedro, Jacinto-Palma, Dee C. Chuan, Norton-Harrison, Rafael Gotaucio are among the owners of immense forest concessions and are working them.

Other industries which are rapidly growing are the embroidery, straw hat, kapok, pearl and shell, fruit and oil-

bearing nuts. There are obtainable in commercial quantities chicle, papain, paper pulp, tanning materials and medicinal plants.

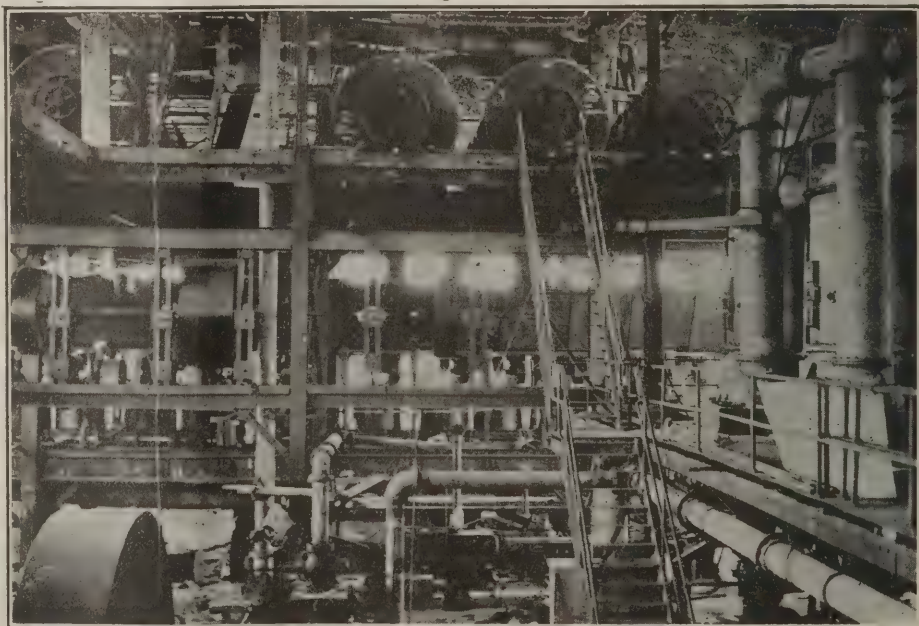
There is a large production of corn. Rice, the first article of diet of the people, is being imported from neighboring countries despite the vast idle tracts of land suitable to rice growing. Its importation however has appreciably decreased on account of the increase in local rice acreage; in fact the optimists among rice-planters predict that the near future will see the Philippines exporting rice.

The country is pastoral; but both meat on the hoof and refrigerated is imported. Cattle-raising is receiving more attention now. The efforts are directed to develop disease resistant and bigger animals. By a process of selection and breeding there is no reason why the pastoral industry should not thrive in the Islands.

The rubber industry has a bright future.

Filipinos have fairly kept abreast with the advance of the country in finance, commerce and industry. It is a most happy augury for the future of the country that the tendency among them is towards business affairs and economic statesmanship.

The firm of Rocas and Company is deserving of mention as the only Filipino concern maintaining its own offices in New York City. It has large financial resources. Its first agent here, Catalino Lavadia, is among the best posted Filipinos on economic conditions outside of the Philippines. The Yek Hua Trading Company, affiliated with the China Banking Corporation, is headed by Albino Zycip, a leader of the young generation, lawyer, banker and



General interior view of a sugar house

factor in social and civic affairs. M. Limjap, Juan B. Alegre, Carlos Palanca and Jose Velasco are successful merchants.

The wealthiest man in the country is Vicente Madrigal who amassed a big fortune in the coal and shipping business during the war. He is now engaged in ocean shipping, manufacture of oil and import of coal and other articles. Teodoro R. Yanco, known far and wide for his philanthropies and his public-spiritedness, owns ships, dry docks, markets, stores and manufacturing plants while the Earnshaw interests own big slipways, shipbuilding and general construction plants. Benito Legarda is heavily interested in industrial enterprises and is rated as one of the richest men in the country.

The firm of Fernandez Hermanos operates a good portion of the inter-island tonnage, controls engineering plants, imports iron and steel and machinery and does a big insurance business. Its head is Ramon J. Fernandez, an engineer educated in Europe, economist and statesman. This firm is a standing evidence of Filipino efficiency.

Unquestionably the strongest American bank in the country, and for that matter in the Far East, is the Interna-

tional Banking Corporation, which is owned by the National City Bank of New York. With the Pacific Commercial it is housed in the Pacific Building, the most superb office structure in the Orient. The other banks are the Asia Banking Corporation, the Chinese-American Bank, Philippine Trust Company, Bank of the Philippine Islands, Yokahoma Specie Bank, the Chartered Bank of India, Australia and China and the Hongkong and Shanghai Banking Corporation.

The foregoing should give a fair idea of the economic life of the Philippines. It is a life of bountiful possibilities. America cannot overlook an inviting opportunity for economic expansion in a country where the American flag waves supreme and adored. There is a country where merely "tickling the soil a yam smiles." There is a people who say to America: "We are co-workers in the portentous task of nation-building here, let us exert ourselves more, and let us both reap more abundant returns in substance and satisfaction."

Already there is going on between the two countries a swelling commerce of ideas and commodities. It is lead-

ing truly to close spiritual and economic rapprochement that is both beneficial and elevating. Expectedly out of the pregnant complexities of setting up a new order ghoulds of despair and disaster were born. But the uniform and orderly progress of the country has caused terrific mortality among them, and that once pampered tribe is lost to complete extinction. The Damon-and-Phythias friendship, so to speak, that exists between the peoples of America and the Philippines will survive outrageous circumstances and the deluge of years.

The Philippines is on the threshold of solid prosperity. The market in America of her leading exports—hemp, sugar, cocoanut oil and tobacco—has fairly revived and is showing firmness and continuing improvement. The crisis is past. The country has settled down seriously to work. The business field is being cleaned of debris. Those who deserved to disappear have made their exit. Confidence is fairly restored. Conditions are inalterably headed to stability. Why should not the very immediate future be laden with hopes realized and plans completed?

Farm Wages Compared With Others

Measured in purchasing power, agricultural pay, represented by the prices paid for crops, is lower than before the war, while pay of other workers is higher measured in dollars or otherwise

By HENRY C. WALLACE
Secretary of Agriculture

IT is worth while to compare wages in the organized industries with the wages received by the farmer, as represented in the price he gets for the things he grows. The value of income, whether it be in the form of wages or of money received for sales of products, is represented not in dollars and cents but in what that income will buy by its purchasing power.

Take the average wage received by the coal miner for mining a ton of coal. In 1913 this wage per ton would buy 1.1 bushels of corn in Iowa; in 1921 it would buy 2.5 bushels of corn in Iowa. In 1913 the ton wage would buy .7 of a bushel of wheat in North Dakota; in 1921 .9 of a bushel. In 1913 it would buy 4.7 pounds of cotton in Texas; in 1921 8.5 pounds. In 1913 7 pounds of hog in Nebraska; in 1921 14 pounds. In 1913 .8 of a bushel of potatoes in New York; in 1921 1.2 bushel. In 1913 11 pounds

of sheep in Wyoming; in 1921 18 pounds. In 1913 1.6 bushel of oats in Illinois; in 1921 3.1 bushels. In 1913 2.4 pounds of butter in Missouri; in 1921 3.2 pounds.

Taking the average yearly earnings of railroad employes, we find that in 1913 the yearly wage would buy 1,492 bushels of corn in Iowa, and in 1921 4,112 bushels. It would buy 1,028 bushels of wheat in North Dakota in 1913; in 1921 1,466 bushels. In 1913 it would buy 6,449 pounds of cotton in Texas; and in 1921 13,934 pounds. It would buy in 1913 102 hundredweight of hogs in Nebraska; and in 1921 237 hundredweight. It would buy 148 hundredweight of sheep in Wyoming in 1913; and in 1921 296 hundredweight. In 1913 it would buy 1,087 bushels of potatoes in New York; in 1921 1,916 bushels. In 1913 2,174 bushels of oats in Illinois; in 1921 5,109 bushels. In 1913 3,309

pounds of butter in Missouri; in 1921 5,285 pounds.

In 1913 the freight revenue per ton mile received by the railroads would buy 1.4 bushels of corn in Iowa; in 1921 this revenue per ton mile would buy 3.1 bushels of corn in Iowa. In 1913 1 bushel of wheat in North Dakota; in 1921 1.1 bushel. In 1913 6.1 pounds of cotton in Texas; in 1921 10.5 pounds. In 1913 10 pounds of hogs in Nebraska; in 1921 18 pounds. In 1913 1 bushel of potatoes in New York; in 1921 1.5 bushel. In 1913 14 pounds of sheep in Wyoming; in 1921 22 pounds. In 1913 2.1 bushels of oats in Illinois; in 1921 3.9 bushels. In 1913 3.1 pounds of butter in Missouri; in 1921 4 pounds.

In 1913 the price of a ton of coal f. o. b. the mine would buy 2.4 bushels of corn in Iowa; in 1921 6.2 bushels; in July, 1922, 9.3 bushels. It would

buy in 1913 1.7 bushels of wheat in North Dakota; in 1921 2.2 bushels; in July, 1922, 4.4 bushels. In 1913 it would buy 10.4 pounds of cotton in Texas; in 1921 21.1 pounds; in July, 1922, 22.9 pounds. In 1913 16 pounds of hogs in Nebraska; in 1921 36 pounds; in July, 1922, 53 pounds. In 1913 1.8 bushel of potatoes in New York; in 1921 2.9 bushels; in July, 1922 4.7 bushels. In 1913 24 pounds of sheep in Wyoming; in 1921 45 pounds; in July, 1922, 70 pounds. In 1913 3.5 bushels of oats in Illinois; in 1921 7.7 bushels; in July, 1922, 14.2 bushels. In 1913 5.4 pounds of butter in Missouri; in 1921 8 pounds; in July, 1922, 16.1 pounds.

In fairness it should be noted that before the corn, wheat, hogs, sheep, cotton, butter, or other farm products get to the consumer's table, a good deal has been added to the price the farmer receives. This margin between the farmer and the consumer has considerably increased during the past eight years, but it is also fair to note that a good deal of this increase has been due to the increase in wages of the people who handle these products.

What these figures show is that the wages of the farmer, as represented by the prices paid for his crops, are lower than his wages were before the war, measured in purchasing power, while the wages of the workman, and especially in organized industries, are considerably higher than they were before the war, whether measured in dollars and cents or in purchasing power.

The purchasing power of the wages of the railway employe in 1921 was 51 per cent greater than in 1913. The purchasing power of the wages of the coal miner in 1921 was 30 per cent greater than in 1913. The purchasing power of the farm hand who works for wages in 1921 was 4 per cent less than 1913, while the purchasing power of the farmer himself was, on an average, from 25 to 45 per cent less than in 1913.

In short, the farmers of the country, numbering almost one-third of our entire population, have borne altogether the heaviest burden of deflation. They have endeavored to get relief by all lawful means. They have appealed to the administration, to Congress and to every other agency which they thought might be able to help them, but while making these efforts to avoid their heavy losses they have not struck. They have not created disorders. They have kept on producing and in the face of extraordinarily low prices have this year grown one of the largest crops in our entire history. The farmer believes in law and order. He believes

in government. He believes in fairness between man and man. He believes in working hard and producing efficiently.

If other groups would do as the farmer has done, our economic troubles would soon be over. Prices would soon be adjusted to their normal relationships. There would be work for everybody and at just wages.

But there are too many people who seem to be thinking only of themselves and how they can profit at the expense of the community at large, and especially at the expense of the farmer. The farmer is sick and tired of this sort of business. He is disgusted with these recurring disputes between capital and labor, especially as connected with the essential industries. He sees no reason why such disputes cannot and should not be settled in an orderly and lawful way and without the interruptions of service which cost him so dearly.

Limiting Cars in Cities

A LAW may be necessary to limit the number of pleasure cars and taxis that may operate in the streets of New York, declared Magistrate Frederick B. House in a Traffic Court. Facing a "traffic crisis," he said the city might have to ask a legislative act or exercise its police power to cut down the fleets of automobiles now crowding the highways.

Drawing a picture of machines, their number swelling daily, swarming over New York's thoroughfare space, Magistrate House said that if the yearly percentage of cars in the streets increased at the rate of the last two years, traffic will come to a standstill for want of space to move in.

"New York City," he said, "is facing a traffic crisis. Right here in this court since the beginning of the year we have heard about 49,000 cases arising out of vehicular traffic in the streets and have taken in fines of about \$500,000. There were too many automobiles in the city's streets in 1921 and it is getting worse daily. There is every likelihood that the percentage of increase in 1922 over 1921 will be greater than the increase of 1921 over 1920.

"That means, and you can't make it too strong, that things will be so bad that we shall not be able to carry on. Take Fifth avenue these days. There are times when standing at the curb, one could walk across to the other side by going over the tops of cars. They

The farmer recognizes his obligation to produce food, for people must eat to live. He demands that both the owners of the coal mines and the coal miners recognize their equal obligation to produce coal, and he demands that the management of the railroads and the railroad workmen recognize also their equal obligation to keep trains moving, for unless the food he produces is moved promptly to market the people will starve.

If the various groups in this country are determined to prey upon one another and abandon law and order for strong arm methods, the farmer can take care of himself. He can reduce his production to his own needs. He can follow the example of some others and refuse to sell what he produces. But he does not believe in that sort of thing. He knows that such a policy would bring about in this great Republic exactly the same sort of conditions that exist in Russia.

are packed from curb to curb with only inches between.

"There is urgent need for more traffic policemen. Conditions are disgraceful. Three or four persons are killed every day. It must be stopped somehow. When we advocate some measure to remedy street conditions, statements come from some people that the remedies suggested would harm business, or at least hamper it. Saving human lives is business.

"As for methods to avoid the present conditions, we have given careful consideration to the problems and we are almost at a loss for the solution. We have held meetings and we have discussed it from every angle. The great trouble, however, in approaching the problem, is the fact that Manhattan Borough is so narrow, especially in the lower districts. The cross streets can't be widened and as a result the avenues are being overworked. I am certain that some of the avenues will have to be made one-way streets clear through to the Bronx. Again, merchants may protest that such a method would hinder business, but human lives have some value, even in this age, and we should take that into consideration even at the risk of some slight impediment to business.

"If we could only make the motor maniacs realize that human lives are worth considering, there might be fewer street killings. These fellows

(Continued on page 26.)

18 Months Business In Government

Marked by a signal reduction of expenses; obtaining of payment by foreign nations on their debts to this country; straightening out of strikes and co-ordination of efforts with the business men

By HERBERT HOOVER
Secretary of Commerce

WHEN the Administration came into power in March, 1921, we were in the midst of the greatest commodity crisis in our history, wherein prices had fallen an average of 40 per cent and the industrial productivity of the country was operating on less than 60 per cent basis. We were confronted with stagnation of commerce, business, and industry. We were faced with four or five million unemployed. Our commerce was suffering from overwhelming taxes. The administration of the Government was wasteful and extravagant. Our expenditures on armament were enormous and threatened further increases. We were still without peace with Germany and Austria. We were in the midst of gigantic naval races with Great Britain. We were steadily drifting into war with Japan. Respect for America abroad was at its lowest ebb.

If we were to have a recuperation in business, the first necessity was to secure a solid peace. Therefore, peace treaties were settled with the former enemy, by which American rights were protected and business and commercial relations with them were restored. The Washington Arms Conference was summoned, and succeeded in not only reducing navies of the entire world, but beyond this it settled the two outstanding dangers in our generation—naval rivalry with England and the rising conflict with Japan; re-established respect for America throughout the world; enabled us to at once reduce the expenditure on armaments, and saved us from a vast increase of expenditure had we maintained this race of arms.

The second outstanding mark to be attacked was the reduction of governmental expenditure and taxes. Departments of the Government have been vigorously reorganized. Over 58,000 civilian employes have been discharged. The Army has been reduced from 225,000 to 138,000 men. We have reduced the Navy from 134,000 men to 94,000 men. The budget system was created, and accounting and coördination of governmental expense was established for the first time.

As a result of hammering for economy in every direction the ex-

penditures of the Federal Government have been reduced from \$5,538,000,000 for the year ended June 30, 1921, to an expenditure not exceeding \$3,770,000,000 for the fiscal year ending June 30, 1923, for which appropriations have already been made and the budget settled. There has, therefore, been a reduction in expenditure by \$1,768,000,000.

In the meantime, between March 3, 1921, and September 30, 1922, the national debt has been reduced from \$24,045,000,000 to \$22,812,000,000, a reduction of \$1,233,000,000.

The Funding Commission has been established to handle the foreign debt. Practically no interest or payments on principal had been made by foreign governments during the previous administration. Under this Funding Commission we are rapidly reaching a settlement with the British Government, which comprises 45 per cent of this debt, by which their payments are to begin at once. This will bring into our Treasury somewhere from \$175,000,000 to \$200,000,000 per annum.

The various bureaus having to do with care of our veterans were consolidated and reorganized. When the Administration came in there were 200,000 cases of disabled men accumulated and not attended to. They have been cleared up and to-day over 287,000 disabled men are receiving assistance from the Government in one form or another including vocational training. This is indeed the only increase in expenditure that we have permitted for here we have used over \$100,000,000 per annum from economies in other directions.

Liberty bonds have been restored to par with an increase of 14 per cent in value since March 4, 1921, or a saving of over three billion dollars to the eighteen million holders of Government securities. Gradually the great national debt is being converted into new securities at lower rates of interest and with a steady saving to taxpayers.

Taxes have been reduced by over \$800,000,000 by repeal of the nuisance taxes and other war taxes. There remains much to be done, but 18 months is too short a time to do everything.

There are some who visualize our

Federal expenditure only in the gross sum and who from this assume that by some fairy wand several billion more can be cut off. Better understanding of the character of our expenditures would correct much misinformation. Of this year's budget of some \$3,770,000,000 we will find that about \$300,000,000 is for clearing up war wreckage which will not reoccur.

If we dissect the balance we will find that 61 per cent is for the purpose of our debts and our obligation to former soldiers. This is the burden of our previous wars and is inescapable. We will also find that 20 per cent of our expenditure is for military protection, and surely no one can accuse us of militarism, with an Army less than the total number of our policemen and with a Navy held rigidly to the mark of our international agreements. Such dissection would also disclose that 12 per cent of our expenditure is for the legislative, judicial, and other functions of our Government generally; 7 per cent is devoted to the development of our national resources, assistance to agriculture, promotion of foreign trade, betterment of our rivers and harbors, our roads, etc. We are now getting down toward the bone in this operation. We can not avoid our obligations to our veterans and our debts, and our Army and Navy are getting near the bottom of demobilization. Some further economy can come within the area of the 11 per cent for administrative functions.

But before we succeed further, we must have legislative reorganization of the governmental machinery so as to eliminate overlap and waste. The Administration has the firm purpose of securing such reorganization. Altogether with the most drastic economies we may conduct the Federal Government upon somewhere from three to three and one-fourth billions. In the matter of the final 7 per cent, however, which we devote directly to the promotion of national welfare, it would seem to me that if we were wise we would double this item. By stimulating the growth of national wealth, we should increase the taxable area and reduce the burden on each individual. As an instance of this, I have for some time

been officially engaged in consideration of the problem of the Colorado River. With the development of irrigation and power in this great basin, we should eventually add an agricultural area to the United States as great as the State of Maryland, and within the span of a generation we should be able to add some billions to our national wealth.

The Departments of Commerce and Labor, anticipating the expiration of the bi-annual coal agreement at the following March, and in view of the dangerously unstable situation in the bituminous industry, joined in an effort during the month of October, 1921, to determine if some arrangement could not be arrived at by which in case of failure of agreement between operators and miners, arbitration or some other device of settlement could not be secured which would insure the country against strike with its great losses to commerce and labor. The representatives of the operators accepted such proposals; but the workers considered they would be sacrificing their opportunities if they acceded thereto.

As it was evident from the situation that a strike was inevitable, this Department warned the public of the necessity to make provision in coal supplies against such an event and undertook in coöperation with the public utility associations a general campaign to increase the stocks of coal as security of continued industry. In order that the public should appreciate the situation, the Department also undertook a survey of the coal stocks at the end of each month for some months preceding the strike.

As a result of these activities, the country entered the strike with by far the largest stock of coal ever known, and the fact that we were able to maintain all commerce and industry throughout the longest strike in history was in no small degree due to this effort.

The strike began on the first of April, and at the middle of May a buying panic within a few days raised the price of spot coal to about \$3.60 a ton. As the price of spot bituminous had risen to \$12 per ton at the mine in 1920 when production was at the rate of 12,000,000 tons a week, it was evident some action must be taken if a worse situation were not to arise with production limited to 4,200,000 tons a week.

In the absence of any legislation or any constitutional basis for controlling profiteering, a conference of the producing operators was called at this Department, and as a result of these conferences it was agreed that the price of coal should not be advanced beyond the Garfield price plus a reasonable al-

lowance in each district for the differences in wage scale and costs which had ensued since the war. These prices varied from \$2.25 to \$3.50 per spot run of mine coal at the mine. Approximately 85 per cent of the producing districts voluntarily undertook this arrangement and the price of spot coal in these areas was restrained to an average of under \$3.25, whereas in the districts which had refused to enter the agreement, prices rose to as high as \$10.00 per ton at the mines. An agreement with the majority of wholesalers and retailers secured that there should be no increases in coal in stock.

At the end of July some districts withdrew from the agreement, although some 65 per cent of the non-union operators held through until August 15, when the strike was settled, and the agreement with them expired.

Despite the districts who refused to coöperate and the occasional bootleggers in coal, the average price of spot coal for the entire period of the strike, as shown by the *Coal Age* was \$3.70, while the average price of contract coal was about \$2.60. During the same period of 1920 even with three times the volume of production but without any attempt at restraint the price of spot coal averaged \$6.20 and rose to as high as \$12.00.

During the latter part of the strike, stocks began to be exhausted and it became necessary to establish a voluntary coal distribution through an appeal to the Governors to appoint coal commissions in the different States. A Federal service in this Department to coördinate this effort through priorities to public utilities thus designated to the Interstate Commerce Commission, secured that the whole of the essential services of the country were kept going. The resumption of the union mines was accompanied by some overcharging for coal and after the fiscal year under review, legislation by Congress established this organization upon an official footing, but through this organization the situation was rapidly restored to normal in prices and distribution.

The accomplishment of peace and reduction of taxes is but part of the services of the Government to the restoration of business and employment. We have made attack upon the problem in many other directions.

One of the most difficult problems that we had to confront, and one still not wholly solved, is that of our agricultural industry. When the Administration took office our farmers were in a desperate plight through their inability to obtain credit or to secure a market for their surplus products. The country banks in many sections of the

country were in a dangerous situation through inability of the farmers to fulfill their obligations. The War Finance Corporation was revived and through it \$350,000,000 of Government money had been loaned to the farmer to enable him to carry his produce, until it can be marketed in an orderly manner. As a result of this, the prices of farm produce recovered an average of 20 per cent throughout the country. Many thousands of country banks were incidentally thus saved from financial difficulties, and the whole economic system of the country was given courage and confidence. Nor will one dollar of this money be lost to the Government. In further promotion of the interest of agriculture, legislation has been passed regulating the packing industry and legalizing agricultural associations.

In the great economic crisis in which we were plunged, the Government was beset for legislation and aid. Clamor for a return to war measures by regulation and drains upon the public treasury were incessant. The Administration resolved that most of these troubles could be cured by mobilization of voluntary action.

For instance we were confronted with 4,000,000 to 5,000,000 unemployed and the possibility of a winter of great suffering. With the vast unemployment there came a great demand that the Government should adopt the patent medicine cure of European countries and give doles to our unemployed from the Public Treasury. Instead of this, the Administration called a great conference of representatives of our manufacturers, municipalities, and public bodies, and drew up a plan for handling the unemployed by voluntary action of the entire community through the coöperation of employers and business men, through the coöperation of municipalities in expediting public works in progress. Over 200 organizations were created throughout the country, and through all these efforts we passed through the greatest winter of unemployment ever known in our history without a single disturbance, without suffering, and without resort to any pauperizing or wasteful expenditure of public money.

Early in the fiscal year conferences were held with some 150 representatives of commerce and industry upon the need for reorganization of the department's foreign trade service to make effective coöperation with the commercial community. It was determined that the Bureau of Foreign and Domestic Commerce should be transformed into divisions representing the more important commodity and specialty lines, and upon the approval of

(Continued on page 26.)

Bits of News About Men in Industry

Announcement is made of the consolidation of the Street Bros. Machine Works, and the Patten Manufacturing Company, Chattanooga, Tenn., both well known and prominent manufacturers of Hoisting Machinery. The above companies have been prominently identified with the construction machinery industry for the past fifteen or twenty years. The charter of the Street Bros. Machine Works, Inc., will be expanded, and the products of the two companies will henceforth be manufactured and marketed by "Street Bros. Machine Works, Inc."

"Street's" extensive line of large hoisting equipment, together with the complete line of small and medium size Patten hoists will form a most comprehensive and up to date line of modern hoisting equipment, consisting in its branches of the following: All sizes of Electric, Gasoline, Steam and Belt Hoists, Mine Hoists, Cargo Hoists, Capstans, Winches, Wood and Steel Derricks, Derrick Fittings, Cableways, Log Loaders, Log Skidders, both ground and aerial, etc., etc.

J. H. Street will continue as president of the enlarged company, and J. W. Burrell, sales manager of the Patten Manufacturing Company, will be sales manager of the "Street" Company.

The Norwalk Iron Works Company, pioneer builders of compressors, manufacturing air and gas compressors for all purposes and also refrigerating machinery, with general offices and works, South Norwalk, Conn., has just opened a Chicago office. It is located at 627 W. Washington Boulevard and is in charge of Mr. L. R. Bremser, who for thirteen years was associated with The Gardner Governor Company. He is thoroughly familiar with all angles of the compressor business.

The Hardwood Manufacturers' Institute has just announced the appointment of Roy H. Jones as assistant to J. M. Pritchard, Secretary-Manager. Mr. Jones, who has been with the Department of Commerce in Washington as assistant to Axel H. Oxholm, Chief of the Lumber Division, Bureau

of Foreign and Domestic Commerce, since that Commodity Division was established by Mr. Hoover, is a practical lumberman of wide experience. He is a son of G. W. Jones, President of the G. W. Jones Lumber Company, Appleton, Wisconsin, with which firm he was connected for many years in the capacity of sales manager. During the war, Mr. Jones was in Washington, Manager of the Hardwood Emergency Bureau, representing the lumber interests of Wisconsin and Michigan. The year following the Armistice a group of northern hardwood manufacturers sent him to England and the Continent to investigate the market for their woods where he was most successful in establishing connections and promoting sales.

The Institute of American Meat Packers has announced, through its President, Charles E. Herrick, that C. R. Moulton, Director of the Department of Agricultural Chemistry of the University of Missouri, has been appointed Director of the Bureau of Nutrition of the Institute's Department of Education and Research, and has accepted the position, effective January 1. Dr. Moulton was graduated from the University of Illinois in 1907. He received his master's degree from the University of Missouri in 1909 and took his doctor's degree at the same institution in 1911. From 1917 to 1918 he was an assistant in Animal Nutrition to the late H. P. Armsby at the Institute of Animal Nutrition, Pennsylvania State College. The chief subjects of research in which Dr. Moulton has been engaged are agricultural chemistry; animal nutrition; nitrogenous bodies in meat and meat extracts; timothy and wheat, and the composition, maintenance, growth and energy metabolism of beef animals.

The Institute also announced the appointment of D. W. Martin, of Chicago, as Director of the Bureau of Merchandising of the Department of Education and Research.

To study and formulate the best methods of selection, transfer and promotion of public service employees is the primary function of the newly-organized Bureau of Personnel Administration at Washington, D. C. Professor L. L. Thurstone, Head of the Department of Education and Psychology at Carnegie Institute of Technology, Pittsburgh, has been appointed Director of Research in charge of the bureau, effective January 1.

The Bureau is to be affiliated with the Institute of Government Research, and has been privately endowed subse-

quent to appeals for its establishment from the United States Civil Service Commission. An advisory board of five members of the national civil service commissions will supervise the operation of the bureau.

The Ingersoll-Rand Company and The A. S. Cameron Steam Pump Works announce the opening of a branch office at 718 Ellicott Square Building, Buffalo, N. Y. This new office is equipped to render full service to those interested in air, gas and ammonia compressors, vacuum pumps, turbo blowers and compressors, condensers, oil and gas engines, pneumatic tools, rock drills, centrifugal and direct-acting pumps and other of the numerous products manufactured by these companies.

In accordance with a request from the Sectional Committee for the American Aeronautical Safety Code, the National Aeronautic Association of U. S. A., has appointed its Vice-President, Bernard H. Mulvihill, and Col. Harold E. Hartney, its general manager, as members of the committee.

The many friends of W. W. Sayers, of the Link-Belt Company, will be glad to learn of his promotion to the position of Chief Engineer of the Company's Philadelphia works and eastern operations. For many years Mr. Sayers was a representative of the Company in their Chicago territory, in the lines related to power house machinery, coal storage, peck carriers, crushers, etc., and later in charge of the locomotive crane department.

The Company will exhibit their most improved machinery for road building, at the Highway Industrial Exhibit, to be held at the Coliseum, Chicago, January 15th to 19th. A very interesting feature will be the new Link-Belt Crawler Type Crane, which made such a good record on the worst part of the new highway around the southern end of Lake Michigan, working in low, swampy ground, removing muck overburden, digging sand, and building sub-grade. Another feature of special interest to road contractors will be the One-Man Power-Swiveling Portable Loader, for handling road building materials from stock piles into wagons, trucks, or concrete mixers, horse carts, barrows, etc.

It is reported that representatives of well-known Detroit financiers and automobile builders have taken options on 2,500 acres of land south of Ridgway, W. V., for an automobile manufacturing plant, an investment of \$10,000,000.

AMERICAN INDUSTRIES

D. M. EDWARDS, EDITOR AND MANAGER

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HEALTHY PROSPECTS FOR 1923

INDUSTRY in the United States will greet the New Year in a very healthy condition. We believe the industrial leaders have reason to be encouraged and strongly hopeful for the future, in view of Government reports, state reports, reports of national industrial organizations and the accumulating reports received by the National Association of Manufacturers. They show, in general, the following:

1. Business is improving steadily and substantially.
2. Our industries in general have resumed almost at normal capacities and are developing from day to day along lines that mean continued and sustained production.
3. Employes are receiving increased volumes of pay in proportion to increased volumes of production.
4. Wholesalers and retailers are both in a safer situation than they were a year ago.
5. Our foreign trade is resuming

old proportions in a most satisfactory way, and better still, much of the business is being done on a cash basis which gives indication that the substantial part of Europe is slowly getting on its feet again. Moreover, some of the foreign nations have begun to pay their debts to this country.

Better business at present seems to be the general rule; complaints of poor business are small in comparison with optimistic expressions; and the hope for the future is even stronger. Predictions and forecasts of failures and panics have fallen flat and it looks as if the country were to be congratulated on the broad and confident attitude of both employer and employe in general.

In some of the industrial centers conditions are reported excellent, as, for instance, in the iron and steel mills. There, according to the latest advices, the production is greater than it has been for years. Also the consumption of cotton by our mills of the South has increased and the same is true of the wool and silk mills in the North and New England centers, even though the latter are suffering considerably still from labor troubles. Our miscellaneous factories are doing good business and the Federal Reserve Board informs us that during the month of October, for instance, the total number of railroad cars loaded with miscellaneous products was the largest ever known.

In the building and allied industries there continues to be good business, in spite of the winter season, and we are constantly hearing complaints from them of labor shortage. We have that reflection also from many other industrial centers, which indicates that we must revise our immigration laws with the view to letting in more of the desirable working men from other countries. The other kind are not wanted. All Americans are determined that never again shall the immigration bars be let down to indiscriminate thousands who come with no thought of doing productive work and with only the view of disruption and destruction. On the other hand, every American welcomes the deserving of every nation, the industrious farmer, mechanic, mill-hand, deck-hand; the man who intends to grow into the real citizenry of the nation and be a self-respecting, produc-

ing member of the community. We have great need for real workers, both in the field of common labor and in the skilled lines.

Aside from our labor stringency we are in excellent shape in this country, but many of our analytical industrialists do not believe we shall return to a full normal of prosperity until the great industrial sections of Europe have been revitalized. Upon Europe's welfare the complete prosperity of this country rests. A nation that is as great industrially as ours must depend on other nations for the consumption of the immense quantities of goods which we can manufacture but for which the demand in this country must reach its saturation point.

WASTED TRANSPORTATION

JUDGE HOUSE, in the New York Traffic Court—a judge who has had unlimited opportunity to see the seriousness of automobile traffic congestion—declares there are too many automobiles on the streets and that “something must be done” not only to protect the pedestrian but the automobilists themselves. He has sought for a remedy, but frankly says he is at a loss to find one. The traffic laws enforced in the city help in a great measure, but they come far from solving the problem. The streets become more and more congested every day. Judge House seeks, not a means of stopping people from using their automobiles, but a method whereby the streets will be rid of the thousands of cars that are purely a waste of transportation.

To illustrate clearly, at Broadway and Chambers Street, recently, in just exactly one minute, there passed: a one-ton truck carrying only two small boxes, a two-ton truck empty, a one-ton truck with six baskets, a touring automobile with driver only, a two-ton truck empty, a two-ton truck with twelve small castings, a touring automobile with only one passenger, a four-ton truck empty, a two-ton truck with six empty barrels, a two-ton truck fully loaded, a limousine automobile with no passengers, a two-ton truck empty, a three ton truck carrying one small wrapped motor tire, an express truck with three mail sacks.

One afternoon, in the Fifth Avenue

shopping district in the streets between Fifth and Sixth Avenues, there were counted: In Thirty-fourth Street, 115 automobiles, standing two-deep on the both sides of the street, waiting for shoppers; in Thirty-fifth Street, 22 automobiles and seven trucks; in Thirty-sixth Street, 14 automobiles and 10 trucks; in Thirty-seventh Street, 14 automobiles and 2 trucks; in Thirty-eighth Street, 42 automobiles and 12 trucks, in Thirty-ninth Street, 14 automobiles and 3 trucks; in Fortieth Street, 7 automobiles.

These 228 automobiles (not counting the trucks) carried an average of less than two passengers; or in other words fewer than five hundred persons who went into the shopping district used transportation sufficient for nearly 1,500 persons and, with their automobiles, clogged up seven side streets so that other traffic was retarded almost to the stopping point. And this was in only one small section of the city. This situation is repeated daily.

When the time comes for the home rush, about four or five o'clock, the main arteries of traffic are so clogged that it takes an hour to drive the distance one could make in five minutes if the streets were clear. The situation is growing more serious every day and will have to be met by the traffic experts, not only in New York City but in the smaller cities, where the same condition is proportionately as menacing.

ANNOUNCEMENT

IN the Ship Subsidy Symposium published in the December issue of AMERICAN INDUSTRIES, the photograph of Mr. Frederick J. Koster was published through error for the photograph of Mr. A. B. Farquhar, both good friends of AMERICAN INDUSTRIES. It so happens that each of these industrial leaders is an admirer of the ability and accomplishments of the other, and while neither has found any fault for the confused identity, we wish to express our regret over the error and our appreciation of the broad generosity of those most concerned.

COMPELLING THRIFT

PUBLIC utilities companies in northern Kansas have adopted a rule requiring all their employes, from heads of departments down to the day laborers, to save ten per cent of their salaries. They may save in any way they please, whether it is in buying a house or making investments; but save they must, or get off the payroll.

Primarily the companies are enforcing this rule from a selfish motive; they figure that the man or woman who is industrious enough to save, who owns a home, or who owns investments worthy of their name, is a citizen substantial enough to maintain in employment. They figure that this spirit of looking after the future will have its reflection in better service to the company and a more stable personnel throughout the organization. It is an evidence that the employe has thrift and an eye to his future in his character.

From all appearances the regulation is working out well. In one of the companies the employes are saving not only ten per cent but from twenty to thirty per cent of their earnings.

UNIONS THAT RESTRAIN TRADE

(From the New York World)

IT is charged in sworn testimony before the Lockwood Committee that the Plumbers' Union dominant in New York maintains an artificial scarcity of skilled members by restricting apprenticeship; that its members take advantage of the dissolution of the Master Plumbers' Association as illegal to cut down production; that it forbids helpers to touch tools except in the presence of plumbers, so that they never really learn their trade, and that it continues to prevent the use of auto-siphon traps except under conditions that make the concession almost valueless.

What the master plumbers see in this situation is that it kills trade; they are not able to bid on contracts at reasonable figures. What the people see in it is that it makes homes costly, both to build and to maintain. It is difficult to see why a union so conducted is not a conspiracy in restraint of

UNION LEADERS AND LAW

Ben W. Hopper, chairman of the Railroad Labor Board, in a speech before the Illinois Bar Association, charged that many railway union leaders are waging warfare against the roads with the purpose of destroying the industry and forwarding a political campaign for Government ownership.

"A large portion of the union magazines which reach me contain bitter attacks on the railroads, their managements and their policies," he said. "These criticisms are not confined to matters of direct controversy between the roads and the employes. Nothing is left unsaid that seems calculated to stir up hatred among the employes and distrust and hostility among the people."

Chairman Hooper charged the union leaders with a deliberate effort to discredit the United States Supreme Court in the minds of the public, because of its rulings on labor injunctions. The effect of such a campaign, if successful, he said, would be to arouse contempt for all law, order and Government.

trade, and why trade laws that are sauce for the employers should not be sauce for the employed as well.

Legislation is proposed to end the evil. In such matters Legislatures are traditionally timid. The people are not. If presently such unions as that of the plumbers, according to this testimony, find their system shattered by public indignation they may blame not Judge Gary, or the National Manufacturers' Association, or anybody but themselves. Unions that give themselves over to unrestrained greed are doing more to destroy unionism than all the other enemies of organized labor can ever accomplish.

ANNOUNCEMENT

"American Industries" is published for the benefit and information of the manufacturers of the country. It will be pleased to receive from its readers information on subjects that will be of interest to other manufacturers.

BUSINESS IN GOVERNMENT

(Continued from page 22.)

Congress divisions were established covering foodstuffs, cotton, agricultural implements, automotive products, coal, electrical equipment, hides and leather, industrial machinery, iron and steel, paper, petroleum, lumber, rubber, shoes and leather manufactures, specialties, textiles, transportation and communication, foreign tariffs, and foreign commercial law. Permanent committees from the trades were created for co-operation with the department, and through these committees the expert heads of different divisions were selected. These committees have kept in constant touch with the department, and the devotion which the business community has shown to this committee work and the thorough reorganiza-

tion which the foreign service of the department has undergone has been distinctly a factor in preventing the demoralization of our foreign trade to the extent that has been reached by all other trading nations. An index of the appreciation of the service which this reorganization brought about is found in the increase of inquiries to the department for assistance to a total of 589,533 during the fiscal year, or about double those during the previous fiscal year.

These conferences with the principal trade groups and firms interested in foreign trade led to an entire revision of the character of information sought from foreign countries, in broadening its economic character, and in rendering more specific its values to the different industries. More particularly

it has been sought to develop systematic and regular information on foreign situations which had direct reflex upon our domestic commerce. For instance, surveys of world stocks and consumption of cotton, wool, wheat, rice, and some other commodities, together with the currents in manufactured goods between other countries than our own on their relation to American markets. The old publication of a small daily bulletin was consolidated into a weekly publication, the paid circulation of which has more than doubled. By the issuance of advance proofs full-page publication of the reports is carried once a week by over 200 daily newspapers and periodicals, reaching a circulation in excess of 10 millions of people weekly.

(Continued from page 14.)

nature would appear to be most valuable to you and to your successors in office when your counsel is sought by lawmakers and when you are making up your own administrative regulations.

The plan is not visionary. It is almost the identical way that feed control officials and feed manufacturers have coöperated with each other with such success in the regulation of the feed for livestock. Such a procedure would undoubtedly bring about some uniformity with a consequent increased efficiency in the regulation of those industries engaged in marketing foodstuffs that are consumed in the United States of America.

While it may be considered out of place to do so in this sort of article, I want to make one specific recommendation of a policy which I think food control officials should adopt more generally. I refer to the policy of approving labels of foodstuffs. There are the usual pros and cons on this subject. But it would appear to me from my Third House experience that the pros are more weighty than the cons. It does not help trade and it does not increase the public confidence in official efficiency for an official to write as follows back to an honest man in trade who has earnestly sought information as to the legality of a certain label in a certain state:

"Your recent letter asking if your label meets the requirements of the law of this state has been received. In reply to the same, I beg to enclose herewith a copy of the law." If the law sent back were the only law and if it were so stated, it would not be so bad. But it frequently happens that it is not the only law governing the product in question. And some bulle-

tins of laws are so printed that one cannot tell a section of the law from a section of the regulations for its administration."

I cannot close with a more just or philosophic paragraph than that of Dr. C. L. Alsberg, sometime Chief of the Bureau of Chemistry, U. S. Department of Agriculture, as follows:

"The most important thing the food producer expects from the food control official is a *fair deal*, that is to say that all should be treated alike. This means more than merely that the food control official must be honest. It means that he must be vigilant so as not to be made a catpaw by one side of a trade controversy. He should, therefore, never make a decision favored by one group of the trade until after he has had an opportunity of getting the judgment on the proposed decision from all the other interested groups. It follows, therefore, that he should make no sudden decision. It is important for him to give everyone an opportunity to be heard. Once he has decided what the proper decision is under any given set of circumstances, he should make the decision known in such a way that all branches of the industry receive it simultaneously and that no one through premature knowledge has an advantage. At the same time he should arrange that decisions go into effect after due warning and in a manner which will cause no economic waste. This matter of economic waste he should always have in mind. Economic waste is always expensive to the consumer. In making a decision that changes an old established practice, he should consider not merely the absolute abstract justice of the proposed change but also its economic effect. Sometimes the economic effect of a decision may be so expensive for

the consumer that it is an open question whether or not it would not be to the public interest to forego a given more or less technical reform."

(Continued from page 20.)

seem to think that by owning a car they become lords of the highways. If jail sentences will do the trick, I intend to prove to them that they are not lords of the highways. And I intend to make it evident that no one can expect special privilege in my court.

"If automobiles in the future continue to be placed in the streets as fast as they have been in the past, I certainly feel that some sort of curtailment of pleasure cars and taxis will be necessary. I know that there will be protest against that and that it would be difficult to get a bill through the Legislature, but it will be necessary. In the event that the Legislature would not pass such a measure, the police power may be exercised.

NEW SAFETY CODES

The frequency of two of the most serious and most common types of industrial accidents should be greatly reduced through the application of two safety codes which have just been approved by the American Engineering Standards Committee. The Safety Code for Power Presses, Foot and Hand Presses, which has been approved as "Tentative American Standard," is the first national safety code on this subject to be prepared in America. The Safety Code for the Protection of Heads and Eyes of Industrial Workers, which has now received the A E S C approval as "American Standard" had been approved by the Committee some time ago.

Open Forum for Readers

All letters to the Editor, intended for these columns, must be accompanied by the name of the author which however will not be used if the express stipulation is made. We wish to make it quite clear that the letters express individual views and not those of "American Industries."

NEW ORLEANS, NATION'S SECOND PORT

To the Editor of
AMERICAN INDUSTRIES:
In connection with the unsupported statement of Mr. George F. Sproule in his article on Philadelphia on page 13 of your October issue, line 5, that Philadelphia is "the second seaport in the country in point of tonnage of export and import trade," I call your attention to the enclosed transcript of official data, showing Mr. Sproule wholly in error in claiming second place for Philadelphia in the face of all the generally accepted official statistics for export and import trade.

I hope you will give space to our objection to this unfounded claim.

WILLIAM DINWIDDIE.
Statistician, Research Dept.,
New Orleans Association of
Commerce.

November 22,

Mr. Dinwiddie's transcript of official data follows:

The following statistics are taken from the latest available official sources and establish beyond question the position of New Orleans as second port not only in the United States, but in North America. The data are compiled by the Research Department of the New Orleans Association of Commerce from reports of the United States Bureau of Foreign and Domestic Commerce and the United States Shipping Board.

SECOND PORT IN VALUE OF IMPORTS AND EXPORTS

(Bureau of Foreign and Domestic Commerce)

Calendar Year	Value of Imports and Exports
1921	
New York	\$3,062,521,187
New Orleans	533,325,814
Montreal	488,542,000
Galveston	471,768,835
Havana	408,335,000
Philadelphia	252,973,870
San Francisco	226,239,914
Boston	225,178,453
Norfolk	218,931,833
Baltimore	183,934,742
Seattle	148,857,196

Fiscal Year	Value of Imports and Exports
1922	
New York	\$2,682,924,910
New Orleans	469,172,982
Galveston	421,281,195
San Francisco	257,943,940
Philadelphia	238,026,464
Seattle	220,192,140
Boston	213,372,575
Norfolk	171,634,281
Baltimore	164,590,175

Data for Montreal and Havana not available for fiscal year.

SECOND PORT IN NET SHIP CAPACITY TONNAGE ENGAGED IN FOREIGN TRADE (Bureau of Foreign and Domestic Commerce)

Calendar Year	Net Ship Tonnage in Foreign Trade
1921	
New York	31,939,852
New Orleans	10,888,870
Tampico (1918)	8,584,000
Havana (1920)	8,554,000
Seattle	7,387,054
Norfolk	6,295,811
Galveston	6,192,612
Philadelphia	5,396,874
Sabine	5,051,361
Baltimore	4,970,625
Boston	4,788,150
Tampa	4,126,001
Vancouver	3,920,000
Montreal	3,837,000
Victoria	3,722,000
Halifax	3,088,000
San Francisco	2,681,795

SECOND PORT IN WEIGHT OF CARGO IMPORTED AND EXPORTED (United States Shipping Board)

Fiscal Year	Long Tons of Cargo
1922	
New York	18,367,007
New Orleans	9,756,998
Sabine	5,082,855
Philadelphia	4,937,692
Galveston	4,852,440
Baltimore	4,326,336
Norfolk	4,263,280
Boston	3,255,651
San Francisco	2,290,392

Cargo weight data for Canadian and Mexican ports not available.

Of the above total for New Orleans, the Shipping Board credits 7,405,208

tons to New Orleans, and 2,351,790 to Baton Rouge, which belongs to the New Orleans Customs District, and is included in the other data above with New Orleans, as usual. The Norfolk total also includes Newport News for the same reason.

THE SHIP SUBSIDY SYMPOSIUM

To the Editor of

AMERICAN INDUSTRIES:

I have read, with a great deal of interest, the symposium in AMERICAN INDUSTRIES on the Ship Subsidy. I do not believe in subsidies, as a general thing. I obtained the impression, from these articles, that the great number of business and industrial men in this country are not in favor of subsidies as a general proposition, but that they do believe government aid for our shipping is the only way that we can put it in the same category with the successful shipping of other countries.

We all know that England, France, Germany, Japan and Holland have subsidized their shipping, either directly or indirectly. We subsidize every other class of our citizenry—in health, in transportation, in protection, in education and even in amusements—and it would seem certain that we should subsidize (or call it by some other name) our shipping. This does not mean the narrow proposition of giving aid to shipping as a class, but it would mean to give aid to every line of business that uses ships—the great industrial establishments and the great American traveling public.

As a foremost nation, we should have a foremost merchant marine; not a great one of thousands of ships, but of a sufficient marine for all our needs, and equal in its service to that of any other country.

Very truly yours,

W. F. HENRY.

New York, December 12.

SAVING HARDWOOD WASTE

To the Editor of

AMERICAN INDUSTRIES:

Permit me to express to you my appreciation of the article in the November issue of AMERICAN INDUSTRIES entitled, "Ending Hardwood Lumber Waste." The rapid depletion of our country's timber resources makes this problem one of vital importance and it is very gratifying to note the interest you take in placing this subject before your readers.

There is no question but what a large part of the waste now taking place in the manufacture and fabrication of hardwood lumber can be eliminated if a careful survey, such as is now contemplated, be made by competent authorities representing both producer and consumer working

in close coöperation, and, it is only by the dissemination of facts and figures through such mediums as your paper that the public interest can be aroused to the importance of this work and lend to it their whole-hearted support. It is not a problem for the lumbermen alone, but affects every inhabitant of this country if they would realize that the beds they sleep in, the tables they eat from, chairs they sit in and automobiles that transport them from one place to another, in fact articles innumerable with which they come in contact daily and even hourly, are constructed entirely or in part from hardwood lumber and the depletion of this commodity would make necessary the use of substitute materials probably in many cases less suited to their comfort and convenience.

In supporting and furthering in every way possible the standardization program in which the elimination of waste is a primary factor, the Hardwood Manufacturers' Institute believes it is taking part in a most worthy cause destined to place the hardwood industry on a higher plane than it has ever been before.

I must apologize for writing you thus fully, but felt that such a splendid article is worthy of more than passing comment and I am sure you will be interested to know that I have received a number of very favorable expressions from our members in regard to it.

Yours very truly,
C. H. SHERRILL, *President*,
Hardwood Manfrs. Inst.
New Orleans, La., December 7.

LIKES THE LUMBER ROMANCE

To the Editor of

AMERICAN INDUSTRIES:

I have read with great interest your splendid article in the November issue of AMERICAN INDUSTRIES entitled, "Ending Hardwood Lumber Waste," and I desire to compliment you on your able presentation of this subject.

Yours very truly,
B. F. DULWEBER, *President*.
Kraetzer-Cured Lumber Co.
Greenwood, Miss., November 22.

PRAISES A CONTRIBUTOR

(The following letter of appreciation was written to Mr. Frederick J. Koster, Chairman, California Barrel Company, who contributed a very able article on the Ship Subsidy.)

Dear Mr. Koster:

Just a line to congratulate you upon your splendid article regarding Ship Subsidy, which it has just been my privilege to read in the last issue of AMERICAN INDUSTRIES.

It seems incredible that the success

of this measure should be jeopardized by a handful of recalcitrant Senators, as appears from the newspapers as I write. However, I want to reiterate my personal appreciation of the fine arguments that I have just read.

With kindest personal regards, as always,

Cordially yours,
J. R. MILLER, *President*,
California Manfs. Association.
Oakland, Calif., December 9.

COMPLIMENTS ON SYMPOSIUM

To the Editor of

AMERICAN INDUSTRIES:

Please accept my congratulations on your symposium on the Ship Subsidy, which is surprising in the number and character of your contributors. Its issue is most timely and I would think would have much influence and be highly appreciated by the Administration at Washington.

Sincerely yours,
AUGUSTINE DAVIS, *Pres.*
Davis Automatic Equipment Cor.

THE INDUSTRIAL FILM

To the Editor of

AMERICAN INDUSTRIES:

Mr. C. D. Merritt's letter of complaint published in the Open Forum of your November, 1922 issue of AMERICAN INDUSTRIES is unfortunately justified. Too many business men and commercial organizations have been "sold" on industrial motion pictures.

In producing industrial films, the same scientific and efficient methods employed in the manufacturing of other commodities can prevail. A carefully planned script or scenario will result in a film within ten per cent of the original estimate as to cost and length. Any film producing concern unwilling to guarantee these stipulations in their contract, does not deserve doing business.

And when a film is carefully planned and produced, no difficulty will be experienced in getting good circulation for it. In our experience, the Motion Picture Bureau of the Y. M. C. A. is an excellent medium of distribution. We have seen letters from some of their clients showing the cost of their distribution to be thirty-eight cents per exhibition and \$1.22 per thousand persons. Such figures prove that motion picture publicity is less expensive than printed publicity via newspapers and magazines.

Another method of circulation is the Departments of Education in each state. The educators in charge will, of course, not accept anything shoved at them. The films they will handle must be interesting as well as educational. And unless such films come up to their standards they will waste no time with them, no matter how

much they want the films.

Theatrical circulation can also be had. But at a certain daily price, just as advertisers paid for slide advertisements. And if the story the advertiser wishes to be told is interesting, entertainment films can be produced for release as features in the regular movie theatres at a profit to the advertiser.

There are several excellent and honorable industrial film producers who make motion pictures that are very artistic and technically correct, interesting and entertaining in story and of the proper length. Each one of these producers is equipped to analyze his prospect's desires properly and efficiently to give him the type of publicity that will do him the most good. Film producers that are in the class of the best of the regular advertising agencies.

And we are certain that these producers are willing to make contracts that guarantee complete satisfaction. And with films built in accordance with the above mentioned ideas, distribution will take care of itself.

SAMUEL A. BLOCH.
New York, November 27.

DIRECTING VS. RESTRICTING

To the Editor of

AMERICAN INDUSTRIES:

If the writer properly understands the situation, a part of the restricting program is vested in our foreign consular or other government representatives, and applies to undesirables. Whether this be the case or not, a plan to be outlined below would seem to be feasible and of general benefit.

East state or community advise the immigration authorities of their need; farmers, mill or mine workers, laborers, etc., and assume in a measure at least the responsibility of placing such immigrants, or a given number of them, on farms, or in positions for which they are fitted—the Consular or other designated authorities to first ascertain what immigrants are fitted for or accustomed to, and stipulate that they go to such designated places. Their failure to do so, or to remain some predetermined time, or removing in that time without authority, to be followed by deportation; to this might be added a provision that they make proper application, and become citizens in a given time.

Such a plan could be made to do away with undesirable congestion in large cities, and aid in building up farming and industrial communities.

If the government can restrict, it is not a reasonable conclusion that it can direct distribution of immigrants.

Yours truly,
F. A. EASTEP, *President*.
R. D. Nuttall Company.
Pittsburgh, December 7.

Romances Of Industry—Paper

Making of paper dates back far beyond the Christian era and has developed, as a foremost medium for advancing civilization, to vast proportions requiring able experts and the hardiest of men

Written especially for AMERICAN INDUSTRIES

By **W. J. RAYBOLD**

President, American Paper and Pulp Association

THE world's first paper was the work of the wasp.

Just as the wasp wings its way on its search for the vegetable fiber which it can convert into paper walls and partitions for its nest, so today the aeroplane like a huge insect, searches out and with the recording eye of the camera photographs the timber areas of the north country, for conversion into pulp and then into paper.

Paper is made to-day in great mills, with huge paper machines, literally hundreds of feet in length, but mechanically by the same basic process as used by the wasps in building homes for their young.

To-day pulp wood from the northern forests is converted into pulp and paper by the mechanical devices of man, which take the place of the mandibles of the insect.

From the earliest stages of its manufacture, the making of paper is marked with romance, the romance of the forests from which the raw material is derived, the history of man's ingenuity in developing the sheet on which are recorded history, romance, poetry, science, in short all of the arts which combine to form modern civilization.

The making of paper goes back far beyond the Christian era. The tale of Moses and the bullrushes is intertwined with the history of the making of paper by the Egyptians from the papyrus plant. The dictionary describes papyrus as a sedge of the Nile region whose pith was sliced and pressed into the sheet from which paper to-day takes its name.

And while the Egyptians were developing papyrus, paper was being made by other

processes by the Chinese.

It may be a far cry from the papyrus of Egypt and the early Chinese paper to the paper sheet of to-day, but



Photo by Champlain Studios
W. J. Raybold

the advance of civilization has paralleled the development of paper.

Paper to-day, the greatest instrument in the hand of man for promoting education, is one of the great commodities of the world, the instrument of business progress, but more than that has been the advance agent of civilization from the early centuries of the Christian era. When paper was not available for general use, the advance of civilization halted, when paper became more and more common, civilization developed proportionately.

So paper has romance in its history, as well as in the present methods of production.

From the historical side, the story of paper begins with the early use of reptile and animal skins; then follows with the development of papyrus and parchment, papyrus being traced as far back as 3,600 B. C. Papyrus was used until the middle of the tenth century of the Christian era, but modern paper has a history leading back through the Moorish invasion of Europe, and their own raid upon the Orient when Chinese paper makers were made prisoners and brought to the then prosperous near east.

Modern paper, which is defined as an aqueous deposit of vegetable fiber, is distinguished by this definition from Papyrus, which was sliced fiber, pressed, dried and coated, the individual fibers receiving no separate treatment.

The art of making paper from vegetable fiber dates back to China in 102 A. D., and after being kept secret for several centuries was brought west when a raid by Moors and Arabs made Chinese



Lumberjacks cutting up spruce for American newspapers

paper makers prisoners and they imparted their secrets to their captors, the Arabs making paper at Samarkand about 700 A. D. Paper mills were established in Bagdad in 795 A. D., and the industry was maintained for some five hundred years as a state monopoly.

When the Moors took the manufacture of paper to Spain in the eleventh century, the industry began its first development in Europe. From Spain the manufacture of paper extended gradually to Italy, France, Holland and in Germany in 1350 it was definitely established. Paper was made in England before 1500, but in about 1685 the influx of Huguenot refugees into England took paper making to Britain as a permanent industry.

In 1760 there was established a mill in Kent, whose old original watermark is still in commercial use on an especially fine grade of hand-made paper.

Until nearly 1800 the making of paper was a hand process, pulp being beaten and prepared and then the sheet of paper being made by dipping frames into the tub of prepared pulpy fluid. In Europe some special grades of paper are still made by hand, but with the development of machinery, the possibilities of use of paper broadened rapidly, and its consumption increased amazingly.

Nicholas Louis Robert invented the first machine, but owing to the French revolution conditions were not favorable for its development so in 1800 the machine was perfected in England by the Fourdrinier brothers who became bankrupt owing to their expenditures in developing the machine which still bears their name, and which, with improvements, is based on the principles

developed in their original machine.

In these days of the early history of paper making, the vegetable fiber used was rags. The utilization of wood pulp in the making of paper marked the opportunity for the tremendous development of the modern newspaper for by using wood pulp it was possible to make a sheet of paper so cheaply as to enable the newspaper to be sold in

grades of paper rose in 1920 to 138 pounds per capita in the United States.

Meanwhile the use of rags was not abandoned. Rag pulp was continued in use for the finer grades of paper, even while on the other side of the industry the development of the use of wood was being constantly perfected.

To-day, in the Holyoke district of

Massachusetts, probably the world's greatest center for the making of fine paper, where the rag paper is produced in great quantities, the use of wood is also large. That district, producing some 500 tons of fine paper daily, uses about 400 tons of wood pulp for over 95 per cent of the country's paper is today made entirely or in part from wood. For the finest papers, rags are still essential.

The development of the wood process, through the conversion of wood instead of rag fiber into the cellulose or chemical pulp which is the basis of all papers, brought the romance of the forest into this growing American industry.

In New England particularly, the paper industry is notably a family industry, original mills are still in the possession of the families whose early members founded the plants now operated by their de-

scendants. The first mill in the United States was the Rittenhouse mill at Roxborough, Philadelphia, begun in 1690. Because the making of paper requires such quantities of water, both for power and in the paper process itself—each 100 pounds of paper requires 7,000 gallons of good pure water—the paper industry gradually by necessity centered on streams where plenty of water



Stored pulp waiting use in the paper mill

the poorest families. Books also became cheaper, through the use of finer grades of wood pulp paper.

With the introduction of the use of wood pulp, the forest came into prominence as a source of the raw material which was now to be used in ever-increasing quantities. America's paper consumption resulting from the use of cheap wood fiber for the common



Sluicing logs past the power house

was available. New England, therefore, became a center of the industry.

As New England was the early center of the paper industry, when rags were the basic raw material, so it was in Massachusetts that the first ground wood pulp was made in 1867, and in 1882 the first sulphite pulp was manufactured on a commercial scale at Providence.

From this point on the story of the paper industry has been the story of the forest. First the pulp wood forests of New England and New York were utilized, and then the enormous quantity of paper required for newspapers, which now use paper measured in millions of tons, sent the industry into the dense spruce and balsam forests of Canada.

The problem of the paper industry to-day is the problem of the forest, except only in the case of the fine rag papers.

The romance of the paper industry to-day is the romance of the forest. The paper machine of to-day carries through its beating equipment the ground and chemically treated wood of the northern forests, draws out the water, as the mixture of wood fiber in weak solution passes over the wire screens of the Fourdrinier machine and perfects the sheet as it passes on to the felts, the steam fed drying cylinders, and the stacks of rolls where the finish is imparted.

The paper machine of to-day carries finely attuned gears, turning out a sheet which in some mills is over 200 inches wide, and rolled out at a rate of 1,000 or more feet in length per minute, is a mechanical jewel.

But back of the modern mill, is the story of the lumber jack in the virgin forests of the north, getting out in the bitter chill of the northern winter the logs which with the coming of spring are tumbled into the rivers which transport them at the beginning of their trip to the mills.

In Northern New York, a forester found two French Canadian boys working with a small cross-cut saw, cutting up a gigantic old spruce. Counting the rings of the felled tree showed that the spruce was a sapling when the Pilgrims landed on Plymouth Rock. The two youngsters of 9 and 11 years, were helping their father get

out pulp wood for a newsprint manufacturer.

This tree, which took 300 years to grow, was being cut up literally by babes in the wood, and it was estimated that it would suffice to make only paper sufficient to print 8,000 eight-page newspapers. One great western newspaper is estimated to consume in its Sunday edition, the product of 43 acres of virgin pulp wood timber land.

The problem of growing new supplies of timber to take the place of that now being used so lavishly is one which America's paper industry, and that in the case of forestry includes Canada as well, is being studied intensively by the paper manufacturers of both of the North American nations.

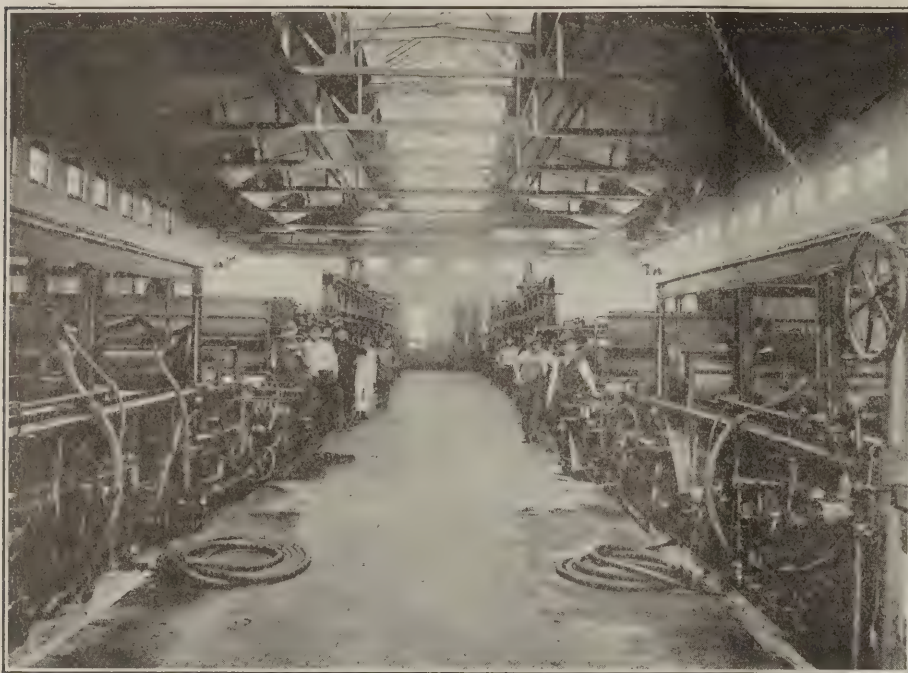
Because of the vital need of paper, if modern civilization is to endure, the paper industry is leading in the national campaign for forestry legislations to preserve the trees, to protect them from fire, and to replant the cut over lands with trees to provide future crops of pulp wood.

One great southern company has just announced its decision to place 53,000 acres of land under forestry management, to provide a continuous future crop of trees for its mills, for it believes that the rapid growing southern pine will be a future pulp wood, where now the northern slow growing spruce is favored. A Canadian company has just announced the turning over of 900 square miles of timberland to the supervision of its forester.

One New York paper company, in 1922, was the largest individual purchaser of young transplant stock for the reforestation of its cut-over lands. A dozen other big paper companies are



Women sorting rags for fine papers



Paper machines receiving the highly diluted pulp

maintaining technical foresters in their organizations, and doing extensive reforestation of the lands from which they have been cutting timber.

The paper industry has been accused at times of devastating the forest. It uses great quantities of timber, but its total consumption is less than 4 per cent of the total wood cut each year in this country. Instead of being a devastator of forest land, the paper industry as a whole is going farther in the practice of forestry, and in efforts to commercially restock cut over lands than any other industry either north or south of the Canadian boundary.

Because of the forest situation, the paper industry in America is neither a Canadian nor an American industry, but has come to be international in scope. The American manufacturers, however, realizing that Canada, though a neighbor, and a partner in the battles of the World War, is still a foreign country, have taken steps to protect their supply of raw material by restocking their cut-over land, through commercial reforestation, and proper forestry treatment of timber stands which still exist.

The problem of the paper mill today, with reference to its forestry situation is far different from that of the lumber or other wood using industries. A saw mill of a cheap portable type, or even the great plants of the far west, can cut a fortune in timber and then be scrapped without great loss of capital in plant investment. A paper mill, however, is not so situated. It has been figured that it takes approximately \$50,000 of capital investment per ton of daily production to construct and

operate a paper mill of a modern type.

In the early days, before the raw material situation was fully realized, the paper mill was located chiefly with reference to water power for its operation, transportation and the market, than with reference to the supply of raw material.

The paper industry in America is largely centralized in such districts as New England, New York and the Lake States, where there were originally apparently inexhaustible forests of the type most suitable for conversion into paper. The great capital investment is still in those states because a paper mill cannot be moved from site to site like a portable saw mill, to follow its source of supply.

This, in a broad way, is an outline of the relation of the paper industry to forestry which led to the introduction of legislation in Congress to protect the existing forests, and to replant the cut-over lands a movement in which the paper industry is officially represented by one of the forestry committee of the American Paper and Pulp Association as Chairman of the National Forestry Program Committee, which is sponsoring this legislation, and one of its salaried men as the unpaid secretary of this committee. It is one reason also why this organization a few years ago selected as its secretary not a paper manufacturer, but a technical forester and economist.

The getting out of pulp wood involves the establishment of elaborate forestry operations, the locating of roads and trails, and the building of dams to control the streams in which when possible the pulp wood logs are transport-

ed to the mills.

Woods operations formerly were largely confined to the winter months, in order to cheapen transportation of the logs from the dense timber tracts over ice roads to the banks of the streams into which they are tumbled to go down with the spring freshets. Winter is still the best time for such operations, but some work is done in the summer with the logs piled for winter transport, or hauled out by tractors, which are rapidly taking the place of the horse in hauling logs, owing to the lower cost of power hauling.

It is a fascinating trip, worthy the pen of the best writers on the out-of-doors, to go into the timber and come down with the "drive" in the spring. In many cases it is a week's trip by canoe from civilization to the woods operations, and a longer trip back, coming down stream with the drive.

In the woods will be camps for the woodsmen, no longer camps populated by men alone, but often providing homes for their families. From these camps the men go out in pairs to fell the trees, trim them of branches, and then comes the trip down river of the logs in twelve or sixteen-foot lengths. Where the timber is close to the mill the wood is sometimes cut into the four-foot lengths in which it is handled by the pulp mill machinery.

A log jam is a striking scene to the novice, but a menace to the worker. The use of tools to loosen the key logs which have blocked the flood of logs or the dynamiting of the logs when they may be jammed at a waterfall, may mean death to the river-man. In such a case one paper mill company lost two river-men, when a motion picture operator barely escaped with his life after taking a notable picture of the drive.

To-day, the production of paper in the United States totals in the neighborhood of 7,000,000 tons a year, of which paper boards for boxes and building lead in tonnage, with newsprint a close second, and book and wrapping sharing the honor of third place. Two cords of pulp wood are required for a ton of wood pulp paper.

The paper industry of the United States alone has an annual product close to the billion dollar point, and its engineers are constantly working on new processes for perfecting the quality, or reducing the cost of the finished sheet, and in the forest the forester is trying to develop methods which will assure a continuous future supply of the basic raw material.

Some mills have their own nurseries for the growth of planting stock for reforestation, others are cutting their

(Continued on page 40.)

BRASS
PIPE

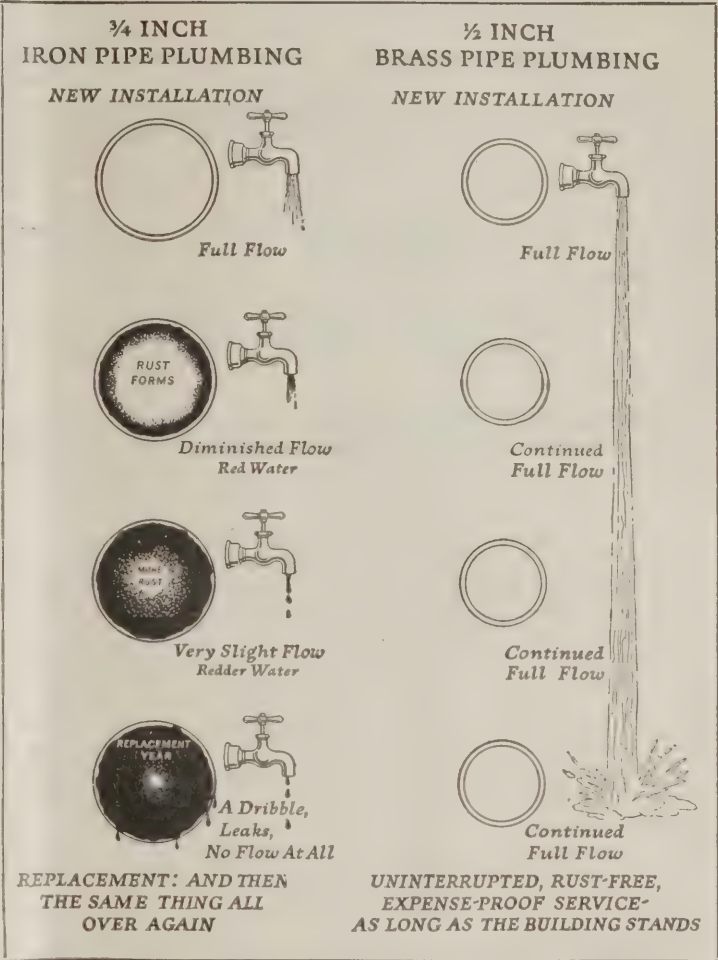
} at almost the
FIRST cost of iron

WRITING in the Plumbers Trade Journal, Mr. T. N. Thomson, sanitary engineer, compares the sizes of iron and Brass pipe required to carry the same volume of water and presents a table of sizes which, when filled in with prices by the estimator, gives a Brass installation at a cost very little in excess of iron.

To illustrate at a glance the basis for Mr. Thomson's calculations we have prepared the diagram which appears on this page.

Deterioration of iron pipe begins the day it is made and progresses in service until it clogs completely with rust.

This corrosion, which is particularly acute in the hot water supply lines, not only discolors the water but greatly reduces or stops delivery at the fixture, and also eats away the pipe wall to such an extent that in many instances leaks appear within six years and force a renewal of the piping.



Saving in Pipe Size
by Use of Brass

From many years' experience on a variety of work, it would appear that reasonable differences in diameter for street service and cold water lines are as follows:

1/2 inch Brass instead of	3/4 inch iron
3/4 " " " "	1 " "
1 " " " "	1 1/4 " "
1 1/4 " " " "	1 1/2 " "
1 1/2 " " " "	2 " "
2 " " " "	2 1/2 " "

For hot water lines, the following appear reasonable:

1/2 inch Brass instead of	1 inch iron
3/4 " " " "	1 1/4 " "
1 " " " "	1 1/2 " "
1 1/4 " " " "	2 " "
1 1/2 " " " "	2 1/2 " "
2 " " " "	3 " "

On the other hand

Brass pipe delivers at the end of any number of years of service as much water as it does on the day it comes from the mill.

Reprints of Mr. Thomson's article, containing the estimator's table referred to and several helpful diagrams, will be furnished free upon request to the manager of the Copper and Brass Research Association. Any number of copies you need.

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Reducing Dust Explosion Losses

Recent mine disasters, caused by the ignition of dust, emphasize the efforts of the government in devising means to minimize the danger that continually confronts 21,000 manufacturing plants

By D. J. PRICE

Engineer in Charge of Development Work, Bureau of Chemistry, Department of Agriculture

IT appears that the first great mine explosion of the bituminous coal fields of the United States occurred at the Pocahontas mine in West Virginia, March 13, 1884. All the men in the mine, 114 in number, were killed. Reports indicate that this disaster created considerable interest in the question of coal dust explosions. Similar explosions occurred in mines in the Middle West, particularly in Iowa, about the year 1892. Although these explosions called attention to coal dust explosions, general interest was not awakened until the series of disasters in 1907 when 1,148 men were killed by mine explosions. In December, known as the "black month in coal mining," 648 men were killed, chiefly from the effects of coal dust. The general interest in the subject on the part of the public and the Federal Government resulted in definite action in many of the coal mining states and led to the creation of the Bureau of Mines.

Although disastrous explosions had occurred in coal mines, there was considerable doubt in the minds of many mining men as to the possibility of a dust explosion originating without the presence of explosive gas. In fact, it appears that the idea was not generally accepted until about 1911, when the Bureau of Mines began to give public demonstrations at the experimental mine on a large scale, making it possible for people to witness an explosion of coal dust in a mine where explosive gas was not present. Although we still refer to dust explosions in our industrial plants (mills, grain elevators, and factories), as a new type of disaster, the records show that even before the attention of the mining industry had been attracted to the possibility of coal dust explosions, a number of dust explosions had occurred in milling plants. In fact, as a result of a disastrous explosion in flour mills at Minneapolis, Minn., on May 2, 1878, it was generally accepted that flour dust was explosive. Eighteen men were killed, and three mills were completely destroyed by a series of explosions. A number of surrounding buildings were burned by the fires which followed, and there was extensive property damage. Experimental work by Professors Peck

Peckham of the University of Minnesota, following the explosion, indicated that all materials except coarse bran burned with excessive rapidity when ignited.

Although the Minneapolis explosion is generally referred to as the first flour dust explosion, it is interesting to note that insurance reports show the following facts.

About 1860 a mill in Kentucky was totally destroyed when the dust produced by the breaking of a bin of middlings in an upper story was ignited by fire in the boiler room.

In 1864 the loss was adjusted in a mill in Illinois in which middlings were being ground. The reports stated that "the middlings clogged" and the miller went up to jar them down as he had often done before, carrying a small oil lamp which he placed on a beam just behind and above his head. He opened a slide in the middlings box, thrust into the box a shovel, and the middlings rushed down, raising a great dust. As this dust issued in a cloud from the slide, it approached and touched the lamp, when instantly, as if it had been coal gas, it flashed, burning the miller's hair and beard and filling the middlings box with a sheet of flame which spread with great rapidity and entirely destroyed the mill.

In 1875 the roof of a flour mill in Minnesota was blown off by a dust explosion. In 1877 a mill in New York was partially damaged by a dust explosion. Going to the purifying box, one of the operators introduced an open lamp which ignited the dust with a flash like gas, doing considerable damage to the mill.

About 1878 an explosion occurred in a Wisconsin mill at the time the plant was shut down. A perpendicular chute about 15 feet long became clogged. One of the men put a stick inside and thumped to clean it. He then lowered a lantern to see if it was clean when an explosion threw a column of fire 20 feet high in the mill. The noise of the explosion was distinctly heard in the village, where it was believed that a steam boiler had burst.

In 1878 the owner of a mill in Iowa reported two instances of dust explosions in his mill, one of them passing

up the leg of an elevator and burning a hole through the roof, the other causing minor damage. The records contain reports of many similar occurrences prior to the big explosion in Minneapolis in 1878 in which the introduction of lanterns or open flames into dusty bins or enclosures resulted in ignition of the dust cloud.

As early as 1872 a violent explosion occurred in a flour mill near Glasgow, Scotland. In it 18 men were killed, 16 injured, and property was damaged to the extent of \$350,000.

The investigations by the Department of Agriculture have been confined principally to the explosions that have occurred during the handling or milling of grain or its products. They indicate that dust explosions can occur from the time the grain is harvested in the field until the finished product is manufactured in the industrial plant.

The importance of effective dust explosion prevention in industrial plants can be more fully appreciated when we consider that over 21,000 establishments in the United States manufacturing products to the value of over \$6,779,449,000, are subject to the dust explosion hazard. It seems to be true that the very thing which is necessary to maintain life will destroy life, unless proper precautions are taken during operating and manufacturing processes.

In recent years attention has been directed to disastrous losses from dust explosions that have occurred in certain grain growing sections during the harvesting and thrashing operations. In the Pacific Northwest, in the intermountain country between the Rockies and Cascade mountains, particularly in what is known as the Palouse and Walla Walla grain growing sections, extensive losses have been experienced from thrasher explosions. These explosions occurred in the open field while the thrashing machine was in operation. In many cases the fire following the explosion has spread to both the sacked and the unthrashed grain, causing great loss.

Going a step further, we find that dust explosions have occurred in country elevators during the handling of the grain for shipment to terminal mar-

kets. Although the explosions in country elevators have been less frequent, probably on account of the small scale of operation, investigations indicate that these plants are subject to dust explosions and that control methods should be adopted.

When we reach the large terminal elevators, we find that the hazard is greatly increased. Some of the most disastrous explosions on record have occurred in modern grain elevators in the terminal markets.

The explosions which occur from the time of thrashing until the time of handling and storing grain in the terminal market are due entirely to the ignition of dust produced during the handling of the grain. This has been an interesting development because it has not been many years since the grain industry felt that it was necessary to crush or grind the grain, thus releasing the starchy material contained therein before it was possible for a dust explosion to occur.

From the elevators the grain goes into various lines of milling such as flour, feed, cereal, starch, sugar, etc. All of these industries are subject to the dust explosion hazard and have experienced extensive losses. In addition to the plants already mentioned, explosions of the following dusts have occurred: cocoa, aluminum, magnesium, cork, fertilizer, powdered milk, rubber, soapine, spice, sulphur, bark, and many others. In fact, it appears that any type of industrial plant dust, with the exception of inert dust, such as shale or limestone, might be ignited readily, and under favorable conditions, produce very disastrous explosions.

Sufficiently encouraging results have been obtained to indicate that inert gas obtained by washing the flue gases may have application in the prevention of flame propagation in grinding units. The explosion will not spread or travel throughout the conveying system when the oxygen content is less than 12 per cent. This method, now being developed in connection with the grinding of grains and in feed manufacture, should be of value in reducing dust explosion losses.

The most disastrous dust explosions in industrial plants have occurred in industries where the dust is permitted to accumulate on ledges, beams, girders, machinery parts, and similar places throughout the plant. In industries where the dust has been effectively controlled and good housekeeping practiced, the extent of the explosion has been localized. Progress has been made in developing pneumatic sweeping systems for dust control in grain elevators.

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Labor Legislation For 1923

A detailed study of the official and reported plans of the National and State Bodies of Organized Labor and of the Radical political groups in various sections of the United States

By MICHAEL J. HICKEY

Assistant Secretary, National Industrial Council

AN era of systematized State legislation, sponsored by Organized Labor, with the coöperative aid of numerous socialist and radical elements, will confront American industry at the 1923 sessions. Release from restraints imposed by recently enacted laws and nullification of the effect of court decisions, which trades unions have come to feel most keenly, will be the principal objects of labor's legislative program for the year.

In many respects the 1923 outlook in the various States is similar to the vigorous campaigns which many alert organizations of industry have previously experienced, with this important distinction—that there are likely to be many more proposals and quite a few new and strongly organized radical proponents. A study of the 1923 State legislative outlook clearly indicates that socialism and radicalism has recently achieved, to a greater degree than ever before, a closer working relation with organized labor.

A chorus of demands for curtailment of the powers of the judiciary and the courts is one of the outstanding features of labor's program for 1923. The national leaders decided to make a most vigorous fight against court processes, such as writs of injunctions, which have proved to be the main safeguard of the industries of the nation against their aggressive activities. The strategy boards in a few States, such as New York and Massachusetts have decided to make their anti-injunction proposals so strong, that with even the greatest modification, if enacted, they will have achieved much in the direction of the goal desired. In some instances the measures specifically demand trial of the facts by a jury before a restraining order can be issued in labor disputes. It apparently matters little that anti-injunction measures, enacted in a few states several years ago, were declared unconstitutional, although constitutional amendments to meet this condition have been formulated in the 1923 bill of demands by labor in Massachusetts and one or two other States.

The main features of organized labor's legislative program for the coming year, are to be found in the decisions reached by the Executive Council of

the American Federation of Labor at Atlantic City, N. J., early in September, as follows:

(a) Enactment in other States, of workmen's compensation insurance laws similar to the Ohio (State Fund) law.

(b) Repeal of State Constabulary Laws.

(c) Minimum wage laws in every State.

(d) Repeal of Industrial Court Laws.

(e) Limitation, restriction or prohibition of issuance of injunctions in labor disputes.

(f) Old age pension laws.

(g) Repeal of all local or State laws restricting pickets.

(h) Repeal of recently enacted laws making voluntary associations suable.

(i) Compulsory unemployment insurance laws.

(j) Specific legislation to protect against governmental intervention the so-called "right to strike."

(k) Sweeping aside powers of the judiciary (Federal and State) to declare acts of legislatures unconstitutional and giving legislators power to over-ride such decisions.

The program as above cited includes what might be described as the "negative" program, the main object of which is to overcome the effect of recent court decisions which clearly place specific legal and governmental restraints on labor unions, and also the "positive" program, the purpose of which is two-fold, first, to provide continuous propaganda material for labor union purposes by attempting to obtain a degree of political control, and second, to be used as legislative trading material.

The "national" program has been specifically designed for State legislative purposes, and will be syndicated from one State to another, as opportunity offers, under the direct charge of the respective State federations of labor.

It is interesting to note that aside from the main features on the "national" program, the State and local labor union bodies retain almost complete jurisdiction over what "special"

or "useful supplementary" legislative measures should be promoted in their respective States. These comprise an almost endless lot of efforts which will be directed at the legislators in one way or another within the next twelve months.

Examination of the detailed State reports indicates that eight-hour day and minimum wage proposals for women in industry will be the issues on which labor will make its chief local fight in the eastern industrial states, although Alabama and Georgia in the south, Colorado, Iowa, South Dakota and Oklahoma in the west also report these issues as prominent in their State programs.

In several of the States reports are current that the railway brotherhoods will make a new effort to again secure the enactment of the full crew laws, which were repealed in many States within the past two years.

Radicalism will be rampant in Iowa and Wisconsin at the 1923 sessions, and almost every extreme of past proposal or conceivable present theory of uneconomic legislation, is expected to make its appearance in either or both of these States.

In the far western states there is every evidence that a determined effort will be made to secure the repeal of the syndicalism laws which have been one of the chief means of protecting those States against the I. W. W. and all other revolutionary elements. In Colorado, in Montana, in Oregon and in the State of Washington, at least temporary coalitions have been effected between farmer-labor elements, the I. W. W. and other (Red) revolutionary organizations.

Industrial court laws which have thus far been enacted in one form or another in two States, Kansas and Colorado, will be the object of attack by the agents of organized labor, in an effort to secure their elimination not only from the statute books, where they have already been enacted, but from the calendar of legislative consideration in New York and several other States where plans are reported to have been made to enact such measures.

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Altogether there are thirty-six States which have laws relating to arbitration and mediation of labor disputes. In some instances labor organizations are in favor of their respective State laws on this subject, particularly where the administrative control of such arbitration machinery is in the hands of State Labor Commissioners who are avowedly or otherwise connected with or sympathetic to organized labor. Investigation of labor disputes is compulsory in several States; notably in Massachusetts. Laws of this character will be under fire of labor organizations in a few of the States, efforts on which will be made to secure certain changes in the administrative provisions and personnel so as to give trade unions a greater degree of control.

State constabulary forces, which have always proven to be one of the most effective arms of State governmental authority when serious labor disturbances threatened the public peace, are also intended for destruction, if labor's plans succeed in any of the thirteen States in which such legislation is now in force.

Under the heading of labor welfare legislation, a determined campaign will be conducted, not only for the enactment of minimum wage laws in every important industrial State, but likewise for the enactment of old-age pension insurance and unemployment insurance statutes.

In the matter of old age pension legislation, labor will have the assistance of the State and national officers of the fraternal order known as the Eagles. In many States the agents of this fraternal organization have already paved the way for legislative consideration of old age pensions by public speeches before Kiwanis and Rotary clubs and other semi-public bodies. The United Mine Workers have also initiated efforts for old age pension legislation in Illinois and other States.

In the matter of unemployment insurance, Wisconsin will once again offer an experimental field for the passage of such a law, with Professor Commons of the University of Wisconsin and the American Association for Labor Legislation ardently supporting its enactment and working for its consideration in several other States.

Workmen's compensation insurance legislation will be another subject receiving systematic attention from the labor unions. Exclusive State fund insurance will be the principal object sought, although in practically every State, a strong effort will be made to "liberalize" the scope and benefits of the existing laws in many ways.



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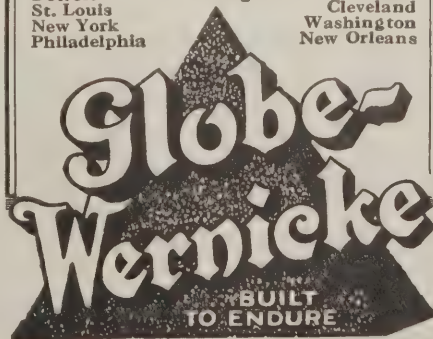
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Economic Reawakening of Cuba

All auguries are favorable for a year of safe and sane prosperity for the Republic and a fine era of reconstruction is at hand during which connections for the next decade must be formed

G. R. STEVENS, Trade Commissioner of the Canadian Department of Trade and Commerce, gives an excellent viewpoint of Cuban business in the government's Commercial Intelligence Journal under date of November 10. Mr. Stevens says: Another month will see the first cuts of cane awaiting at the great centrals for the wheels to turn; in six weeks the grinding season will be under way, and in the ensuing eight months Cuba will produce approximately one-quarter of the world's raw sugar. The immensity of this crop makes Cuba a key factor in the sugar supply of the world; world conditions react delicately upon the returns from this crop; and these returns decide the prosperity or poverty of this republic. It is therefore possible to pronounce with fair certainty upon Cuba's economic position during the next twelve months before a wheel has turned; and it is quite within bounds to say that at the time of writing, all auguries are favorable for a year of safe and sane prosperity which should liquidate the lingering inheritances of the chaos of a twelvemonth ago.

It is now two years since Cuba reached the peak of fictitious property and straightway plunged into the financial morass. The billion dollar crop of 1919-20 carried this republic into vast and irrevocable speculations during the spring and early summer of the latter year, until every wharf in Cuba was choked with imports forwarded on consignment, and patriotic Cubans went about preaching that all sugar should be held for \$1 per pound. Then in a month the price of sugar was decimated, a full dozen of the Cuban banks had been swept into bankruptcy, an eight months' moratorium had been declared, and millions of dollars' worth of every type of merchandise lay on the open quays. No one would pay the duty and take it away. Upon the heels of such a crash came the new grinding season, necessitating fresh credits and renewed financial support; the world was full of twenty-five cent sugar for which the market price was barely three cents, and the new crop of 1920-21 dumped four million tons more upon the two million tons' surplus from the preceding crop. In the light of such a situation, the stagna-

tion and economic trance of Cuba in 1921 may be understood. The moratorium put a premium on evasion and commercial immorality became paramount; Cuba was flooded with high-priced imports for which she could not pay and which she did not desire in the least; while abroad, her sugars hardly realized their carriage. No one seemed to have the foggiest inkling as to where the 1921-22 crop would go; the only realities were the huge surpluses of sugar and the vast bank overdrafts which remained as legacies of the preceding season.

From this distance it is quite easy to note some of the factors that were overlooked a year ago. There was the matter of costs of production. Many inefficient estates had committed commercial suicide, and had passed into the hands of the banks; as a result, costs of production were due to break sharply in the ensuing season, and Cuba was to be forced to produce two cent sugar in spite of asseverations that such manufacturing costs were impossible. But more important still, the fact was overlooked that a peaceful and a working world is a sugar-

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eating world, and a steadily mounting under such conditions. Finally, the consumption should be reckoned upon disappearance of the hosts of speculators gave the economic structure an opportunity for reorganization and rehabilitation. Another strengthening factor of prime importance which worked for Cuba's recovery was the attitude of the United States. Under the Platt amendment, certain privileges are retained by that power; during the period of chaos and disorganization, the United States Government, while scrupulously recognizing Cuban autonomy and sovereignty, chose to lend aid in the rebuilding of the republic. With the assistance of its well-considered pressure and advice, the Cuban administration was able to lay the foundation for the necessary reconstruction.

At the opening of the grinding season of 1922, the Government control of sugar sales was abolished, and immediately, after a quiescence of about fifteen months, the world suddenly began to buy sugar again in quantity. The old crop passed, and the new crop began to move. It was soon evident that the Cuban producers were not going to pay the entire United States duty, but that the American consumer would stand at least a fraction of the increase. This was en-

couraging, and the large replacements of depleted European stocks were even more encouraging. The shortage of working capital was acute, and remained so; yet the sugar industry commenced to make steady progress towards lower costs and better profits. It became apparent that the sugar demand in 1922 would be considerably in excess of all estimates, and given distribution, there would be an opportunity somewhere in the world for almost all the sugars produced, without restriction of production and even in the face of preferential tariffs. With economy, Cuba could make the grade.

Fortunately, the Cuban Government chose this moment to put their house in order. It was a painful business for the legions of privileged folk who

form the official class in Spanish-American countries, but reinforced by manifest American approval and the vision of an American loan, Cuban Government made a fairly clean sweep of it. So 1922 drew away, until for the third time since the crash of 1920 the grinding season approaches and the probabilities of the ensuing year may be hypothecated.

Politically, Cuba is fairly sound. Her contiguity to the United States and her involvement in the economic fabric of that nation lend an almost Anglo-Saxon stability to her institutions. The last few months have been reassuring. The recent elections were carried through in unusual calmness. The recent disclosures ensure the regularity of governmental policy and administration for the present.



WHITING-ADAMS BRUSHES

FAMOUS FOR THEIR QUALITY

Most extensive and best line of
Toilet Brushes in the world

Send for Illustrated Literature
JOHN L. WHITING-J. J. ADAMS CO.
Boston, U. S. A.

Brush Manufacturers for Over 113 Years
and the Largest in the World





"Special Scout Service"

Is primarily a confidential field service for officers and general managers of manufacturing and distributing concerns.

It comprehends surveys and investigations relative to facts dealing with sales problems.

It contemplates comprehensive reports of facts relative to sales possibilities, as disclosed through actual investigations.

The work is done by an impartial and thoroughly trained investigator.

The advantage lies in the fact that it deals with each specific case separately which brings it within reach of both large and small manufacturer and distributor.

Frank M. Bertrams
Rockford, Illinois.



Attention Manufacturers!

Through plans now being formulated we hope soon to be able definitely to announce to the Manufacturers of the United States, that we are in a position to offer the largest Motion Picture Theatre and non-Theatrical circulation for "Industry" and "Product" Films ever before thought possible.

The average daily attendance in the Motion Picture Theatres throughout the United States is in the millions.

Your films would reach a definite percentage of this tremendous circulation.

We offer our expert advice as Screen Advertising Specialists in the preparation of your Motion Picture Advertising Campaign without charge to the Manufacturers.

We will co-operate with you in the preparation of your advertising material such as, Scenarios, Continuities, Production, Distribution, and submit a comprehensive approximate estimate of the cost of the necessary appropriation.

We invite correspondence.

What are your ideas?

Your Suggestions?



INNOVATION FILMS

1834 BROADWAY NEW YORK

Advertising Dept.

Member of National Association of
Manufacturers

(Continued from page 12.)

be designated by a court upon the application of either party.

VI. Proceedings in Violation of an Arbitration Agreement or Submission.

If any court proceeding or action is brought upon an issue that is referable to arbitration under a contract or submission, the trial of such an action shall be stayed until an arbitration has been had.

VII. Attendance of Witnesses, etc.

Arbitrators shall have the power to summon witnesses and to compel the production of books or papers, and a person refusing or neglecting to obey such summons may be punished for contempt.

VIII. When an Award may be Vacated or Modified.

An award is final. It may be vacated, however, by a court, where it was procured by corruption, fraud or undue means, or where the arbitrators showed partiality, or were guilty of misconduct or misbehavior or exceeded or imperfectly executed their powers.

A court may modify an award where there was an evident miscalculation of figures or mistake in description, or where it was rendered upon a matter not submitted to arbitration.

NOTE: There is finality to an arbitrator's award, as stated in Section VIII, the courts holding that they will not consider, on appeal, any question of law or fact involved.

When a law like that outlined is enacted by the states; when public tribunals are established in the principal cities, and when commercial and business bodies lend their weight and influence to promote the cause of arbitration throughout the country we will no longer need to worry about the congestion of the calendars of the regular courts. The courts will be able to keep pace with this work. What is more, we will be applying the principle of understanding, of mediation and conciliation in our human and business relationships; we will be eliminating much of the economic waste of litigation and establishing sounder principles all around.

(Continued from page 32.)

forests with reference to natural future growth, but the search for undeveloped forests is constantly going farther and farther into the wilds.

It was a Canadian forester who first used the camera and the aeroplane for the searching out and examination of new forest areas. Months of constant flight developed that photographs of various areas of forests of various species of timber and density of growth gave recorded evidence of the nature

and content of the areas photographed. Forest areas were photographed, and then carefully studied, until to-day it is possible for the aeroplane in a couple of hours of flight and camera work to produce a timber survey of an unknown area which in the days before the war would have taken woods cruisers many days of hard work, in the dense forest growth of the north country.

And so it is that to-day the aeroplane and the Fourdrinier machine are doing the work which nature first assigned to the wasp and his mate, in their home building.

SWINDLERS IN COLOMBIA

Since the war a band of swindlers have been operating quite extensively in Colombia, making use of well sounding firm names in various cities, and have succeeded in imposing on a number of foreign business houses through using one another as references. The names under which these swindlers have operated have been furnished to the National Association of Manufacturers by one of its Colombian correspondents.

AGENCY WANTED

for reliable manufacturer needing representative in New York. Wide experience. Excellent reputation. Splendid connections.

Address:

**"ACTIVE BUSINESS
MAN"**

**American Industries,
New York**

To the Manufacturer:

A high grade industrial manager, with twenty years executive experience, and now employed, wishes to connect with large manufacturer needing able man to improve production methods, lower costs, improve quality, increase profits. Have managed large force, metal, wood, composition products. References given and required. Address: A. B. P., "American Industries."

FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

ALGERIA

Cotton textiles of all kinds are of interest to a firm of cotton wholesale merchants in Algiers. Correspondence in French. (627)

CANADA

Druggists' sundries, fancy goods, smallware and notions, toys and picture books. A firm of manufacturers' agents desires representation of American firms for Canada. (628)

ENGLAND

Combined coffee mills and roast-

ers for hand and power, are of interest to a firm of British merchants. (629)

Machinery for the manufacture of collapsible tubes is of interest to a firm of merchants in Great Britain. It desires quotations on one machine, delivered at London, quotation to be accompanied with descriptions, power required, illustrations, etc. (630)

Rice hullers to be worked by hand, about the size of No. 10 maize mill or a little larger, is of interest to a firm of merchants in England. (631)

Hardware, woodenware and small tools for Great Britain. An old established British firm of importers and manufacturers agents, now handling a number of American lines, desires a few additional first-class American representations in the above. (632)

UNITED KINGDOM

Representation of makers of patented machinery on novel appliances for industrial purposes is desired by a British mechanical engineer with good connections in England. (633)

FRENCH EQUATORIAL AFRICA

Cutlery, glassware of all kinds, thermos bottles, lanterns, fonts, dress goods of all kinds including silks, boots and shoes, jewelry and small machinery especially for household use. A trader in French Equatorial Africa desires to hear from American manufacturers. Correspondence in French. (634)

GREECE

Machinery and equipment for the manufacture of potash, utilizing the residue of molasses previously used for making alcohol, is of interest to a firm of importers and merchants in Greece. Correspondence in French. (635)

INDIA

Dental, surgical, medical and rubber goods, hospital supplies, medicines, drugs, patent medicines and similar lines; also metals, machinery,

THE JOHN PRICE JONES CORPORATION

Publicity and Public Relations

150 Nassau St., New York

Tel. Beekman 1981

The John Price Jones Corporation is an organization of experienced men specializing in publicity, public relations, educational campaigns for public or business purposes, and the organization of conventions and other special undertakings calling for an expert staff.

It offers to the business executive all the facilities of a going concern for his temporary or permanent service, thus relieving his mind of responsibility, his desk of heavy extra routine and his organization of permanent overhead expense.

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The John Price Jones Corporation undertakes planning and organization of Sales Campaigns, together with the production of all literature, prospectuses, letters and general publicity.

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Specializing in Hooven
Automatic Typewriting
Printing
Multigraphing
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Mimeographing
Multi-Color
Addressing
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Mailing Lists

JOIN

The Manufacturers' Center

IN NEW YORK CITY

[The Hudson Terminal Building, 50 Church St.]

The National Association of Manufacturers has
1500 Square feet of Space at the above
address to lease

- It is the center of the New York offices of manufacturing concerns.
- The Machinery Club is in the building.
- It has direct connection in the building with all railroad lines.
- It has immediate connection with all city transportation lines.
- It is light, roomy and equipped in every modern way.

Are you opening or re-locating an office in New York?
If so, you should be in the manufacturers' central district.

For particulars write or telephone to the

National
Association of Manufacturers
50 Church Street
New York

Telephone, Cortlandt 3397

mill and railway stores, general hardware and sanitary supplies. A firm of importers in Bombay wishes to hear from manufacturers of the above. (636)

Knitting machines for India. A firm which desires to start a hosiery and underwear factory is in the market for knit goods machinery. (637)

Prepared and composition roofing of all kinds; also rubber carpet flooring of various designs are of interest to a firm of merchants and importers in India, which desires samples and quotations f. o. b. New York or c. i. f. Bombay. (638)

MALTA

Granulated sugar, Rio and Santos coffee, lard, flour and rice. A firm of merchants and manufacturers' agents desires to hear from American manufacturers and exporters of the above. (639)

NEWFOUNDLAND

Condensed and evaporated milk, also roofing and sheathing felt is of interest to a merchant in Newfoundland who desires c. i. f. quotations, if possible. (640)

NORWAY

Sugar, syrup, coffee, rice, flour, corn, provisions, fruit, both fresh and preserved, vegetable oils. The inquirer desires to secure American agency connections for Norway. (641)

SOUTH AFRICA

Patent medicines, druggists' sundries, toilet articles and allied lines are of interest to a firm of manufacturers' agents in South Africa, which desires American agency connections. (642)

Women's low cut shoes for street, dress and evening wear, also dancing slippers and comfort shoes. A retail shoe dealer in South Africa desires to hear from American manufacturers with catalogs and price lists. (643)

CHINA

Blank phonograph records for reproduction purposes, and apparatus for such reproduction are of interest to a firm of importers in Hongkong. (644)

Wool combing and wool purifying machinery, principally of small capacity for home industries, to be operated by hand or a horse-driven mechanical combination; also card cloth for wool combing machines is of interest to a merchant in Manchuria. Correspondence in Russian. (645)

LATIN AMERICA

Active Business Man

with 10 years' Latin-American mercantile and social experience seeks connection with manufacturing or mercantile house for purpose of either permanent representation or investigation trip in those countries. Also ready to discuss very favorable and economic proposition for the representation of group of non-competitive manufacturers, who may want to show their products at the Brazilian International Exposition at Rio Janeiro this winter. Speaks Spanish, French and German. Best of references, bank and others.

Address "O. W. B.," American Industries, New York.

American manufacturers interested in reorganizing or reshaping an already established

DIRECT
EXPORT BUSINESS

or in going after it on a sufficiently vast scale, or in a level-headed, ambitious — neither pessimistic nor unduly optimistic—manner, are invited to send their names, with indication of the official to be communicated with and also the nature of products (if not obvious), and by circular matter already prepared, they will at once receive preliminary information.

A. HOBEK

1485 Metropolitan Avenue
Brooklyn, N. Y.

JAPAN

Butter, cheese, canned goods, preserves and similar fodstuffs of American manufacture are of interest to a firm of merchants in Japan. (646)

SPAIN

Automobile hearses, also transportation wagons and trucks of all kinds relating to the undertaking business. An undertaker in Spain desires catalogs and quotations in detail on the finished hearses and chassis only. Correspondence in Spanish. (647)

CUBA

Boots and shoes, shirts and men's haberdashery and ready-made clothing for Cuba. The inquirers desire to secure American agency connections in the above. (648)

Canned goods, grain, beans, rice and similar articles for Cuba. The inquirer desires American representations. (649)

Canned goods, grain, beans, rice, produce and provisions generally, hosiery, gloves and textiles. A general commission agent desires to hear from American manufacturers of the above. (650)

Flour, corn, potatoes, onions, fruits, lard, bacon, meats, canned foods, rice, beans and edible products generally are of interest to a wholesale dealer in food products in Cuba. (651)

Groceries, canned fruits and vegetables, edible corn oil, pork products, candles, barbed wire on reels, staples, galvanized wire nails, heavy hardware, packing boxes, box shooks, barrels and barrel shooks are of interest to a firm of merchants in Cuba. (652)

Hosiery, neckties, shirts and men's haberdashery generally, boots and shoes and piece goods for men's and women's clothing for Cuba. The inquirer desires to secure American agency connections on a commission basis. Correspondence in Spanish. (653)

Silverware, plated goods of all kinds and low priced wooden tops of all kinds, gyroscope metal tops and low-priced shirt studs, are of interest to a firm in Havana. Correspondence in Spanish. (654)

CHILE

Automobile accessories, parts and products of all kinds for Chile. A member of a Chilean house is now in New York City looking for American representations in the above lines. His

Your
Motion Picture?

Is it in circulation? Or lying useless in your vault? Are you fully satisfied with it?

Is it up-to-the-minute technically as well as artistically?

The intelligently thought-out and carefully produced motion picture is a super-salesman. It brings to the attention of the prospective purchaser of any commodity, the elusive something the salesman, no matter how clever and intelligent, fails to put over.

The motion picture is a definite branch of publicity and merchandising. Many a campaign is incomplete without it. Printed publicity is a powerful force, but each reader visualizes it in accordance with his individual understanding. The motion picture does this for him more effectively.

Let us "reincarnate" that film you are so disappointed about. And help you get it in circulation. Let it again be your most effective salesman. Turn a liability into an asset.

We also conceive plans, construct scenarios and produce new motion pictures for both standard and safety size projectors. Our experience and equipment is complete.

Write us to-day about that motion picture problem.

We have the solution.

SAMUEL A. BLOCH

1493 Broadway New York, N. Y.

To Attract 100% Attention Tell Your Story With Motion Pictures

FOREIGN DIRECTORIES FOR SALE

1. The World's Merchants, Manufacturers, and Shippers. Published by Kellys Publishing Co., 2 volumes, 1921 edition. Original cost \$40.00. Selling price, \$10.00, without postage.
2. South African Merchants, Manufacturers, etc. for 1921. Comprises separate trades and professional directories for 2,000 townships and districts of Cape, Transvaal, Natal and Orange Free States provinces, together with maps. Original cost \$12.00. Selling price, \$3.00, without postage.
3. Norwegian Merchants, Manufacturers, etc., for 1920-1921. Gives details of business of firms throughout Norway, together with maps. Published in the Norwegian language. Original cost, \$15.00. Selling price, \$2.00, without postage.
4. Danish Merchants and Manufacturers for 1920. 2 volumes. Published in the Danish language. Original cost, \$10.00. Selling price, \$1.50, without postage.
5. Egyptian Merchants and Manufacturers, etc., for 1919. Printed in the French language. Original cost, \$4.00. Selling price, \$1.00, without postage.
6. The Indian Guide and Directory for 1920. With complete maps, and arranged according to towns and classifications and also alphabetically. This Directory covers Bombay, Calcutta, Karachi, Madras, Rangoon, Burma stations, Mesopotamia and South West Asia. Original cost, \$8.00. Selling price, \$1.50, without postage.
7. Mines Handbook and Copper Handbook, 1920. Published by H. Weed. Well arranged, giving a record of active mining companies throughout the world, glossary of mining terms and statistics. Original cost, \$15.00. Selling price, \$3.00, without postage.

Address Foreign Department
National
Association of Manufacturers
50 Church Street, New York

firm represents makers of three leading American automobiles and one motorcycle, in addition to a number of automobile products throughout Chile, and his firm has established service stations and garages in various parts of that country. The gentleman expects to remain in the United States for about three months and automobile products houses interested in representation in Chile should communicate with him direct. (655)

Machinery for the manufacture of shoe laces, also machines for making eyelets and hooks for shoes are of interest to a firm of heel manufacturers in Chile. (656)

GUATEMALA

Hosiery, underwear, garters and suspenders, shirts, collars, handkerchiefs and dry goods generally. A newly established dry goods house in Guatemala desires to hear from American manufacturers. The same firm is also interested in American moving picture films. (657)

MEXICO

Vestibule or foyer and living room furniture; also roofing tiles and prepared roofing are of interest to a firm of merchants in Mexico City. Correspondence in Spanish. (658)

PORTO RICO

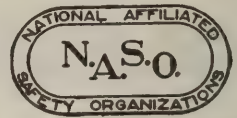
Tin cans of all kinds and styles, particularly the type of tin can provided with removable sunken top—are of interest to a firm of preserve, etc., makers in Porto Rico. (659)

CANADA'S INDUSTRIAL ADVANCE

Progress in agricultural and industrial development in Canada over a period of years is shown by statistics which have recently been prepared by the Department of Colonization and Development of the Canadian Pacific Railway. The figures on the whole reveal increases in crop production and generally improved business conditions.

Heavier yields of wheat and oats were reported in 1920 than at any time for four years previous, and in the case of each crop a larger percentage was merchantable. Mineral production in 1920 showed a heavy advance over 1919 and was almost double that of 1910.

A census of manufactures, both capital and products, revealed that in 1918 the value of products had almost trebled over the figures of 1910, while the total of capital stocks had increased in about the same proportion.



Safety Devices

Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

Arc Welders' Helmets—To shield eyes against intense rays of the electric light.

Leggings—To protect foundrymen's legs against molten metal.

Shoes—To protect workmen's feet against molten metal.

Respirators—To prevent inhalation of harmful dust or fumes.

Knuckle Guards—To protect hands when wheeling barrows or trucks through doorways or narrow passages.

Ladder Feet—To prevent ladders from slipping.

Chip Guards—To protect eyes from injury by chips thrown from lathe tools.

Metal Danger Signs—Portable, for use in shop, yard or street.

Linen Danger Signs—Various warnings of danger, for attaching to sign boards or partitions.

Rules for Cranemen—For guidance of crane operators and others.

First Aid Jars—Emergency outfit especially developed for industrial use.

Stretchers—Sanitary metal stretchers, which can also be used as cots.

Shaft Protector—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

An Achievement Worthy of Record

F. Eugene Ackerman and his associates, on behalf of business men, organized and directed the campaign for a scientific tariff, the principles of which were incorporated into the flexible tariff provisions of the present bill. The President of the United States recently declared that this provision marked a new era in the history of tariff legislation in this country.

This organization comprises skilled and experienced men whose services are effective in many avenues of business publicity. Each of them is a skilled journalist, with unusual ability in the writing of copy, whether for the editorial or advertising columns. Each one has successfully conducted national and international information campaigns on behalf of important interests and of foreign nations.

Corporations and individuals interested in direct-by-mail sales campaigns or in the publication of inter-organization magazines for the stimulation of sales or the increase of the good will of employees will find this organization of great service.

If you are interested in that phase of publicity represented by the industrial motion picture we are prepared to guard you against your lack of experience in a highly technical field.

F. Eugene Ackerman

Organization and Publicity

141 Broadway
New York

(Continued from page 8.)

delegates to the congress. Each exposition room has been applied for at the show to fill much more space than can be secured in the Chicago Coliseum and adjacent buildings. Excursion rates for the round trip to Chicago have been granted by all railroads.

During the congress, conventions will be held in Chicago by the Asphalt Association, the Midwest Section of the American Association of Engineers, the National Sand and Gravel Association, the National Crushed Stone Association, the Illinois Highway Contractors' Association, and the Illinois Association of General Contractors.

The entertainment to be provided during the week for delegates and visitors will include a stag party to be given Tuesday night, January 16, by the exhibitors at the show, with orchestral music, songs, dancers and boxing contests. On Wednesday evening, January 17, the annual banquet of the American Road Builders' Association will be held at the Congress Hotel. Men of national prominence will address the banquet and a high-class musical and vaudeville program will be rendered. On Thursday evening, January 18, the American Road Builders' Association will entertain delegates and visitors with a dinner-party at Terrace Garden, during the performance of "The Terrace Garden Review."

TRAVELING IN GERMANY

With the depreciation in the mark, barring loss of time, it is becoming about as cheap for the London merchant to transact business with Germans in person as by letter. Calling at the offices of the National Association of Manufacturers, in November, a prominent London merchant stated that a few weeks previous he had made a journey in Germany by rail of 780 miles, spent one day at a hotel, had three meals a day on the trains and that his expenses, including first-class railroad fare, for the trip amounted to the equivalent of \$3.00 in American money. On one trip of 540 miles first-class from Rensburg to Aix-la-Chapelle the cost in English money was 2 shillings 4½ pence. Of course, this facilitation of travel in Germany through depreciation of the mark as measured in sterling or dollars works in the opposite way with respect to the Germans traveling outside of Germany and handicaps them very much in seeking business through their own travelers.

SMALL DROP FORGINGS

To Your Order

We execute faithfully all orders received, guaranteeing the great essentials of

QUALITY
AND
SERVICE

We will be glad to quote prices if you will send us models or drawings.

**Scranton
Forging Company**

Special
Drop Forgings

SCRANTON, PA.

SEYMOUR PRODUCTS

NICKEL formerly **SILVER**
German

WIDE SHEETS, POLISHED
AND PATENT LEVELLED
SAND CASTINGS

Nickel Silver

**Phosphor
Bronze**

Cupro Nickel

Brass, Bronze, etc., Ingots,
Sheets, Wire, Rods, Tubes,
Blanks and Shells

CAST NICKEL ANODES
ROLLED PURE NICKEL
ANODES
PURE NICKEL

Sheets, Wire and Rods

**The Seymour
Manufacturing Co.**

SEYMOUR, CONN.

Tel. Seymour 115

Cable Address: Seymource

Pacific's Foreign Trade Gain

THE Pacific coast ports continue to gain in their share of the foreign trade of the United States when compared with those of the Atlantic and Gulf frontage. To what extent this is due to the use of the Panama Canal, says the *Trade Record* of The National City Bank of New York, cannot be definitely determined, though when we compare the figures of the Pacific Coast ports with those of the Atlantic Coast the tremendous gains of the former since the opening of the Panama Canal are at least quite apparent.

Comparing the trade figures of the fiscal year 1922 with those of the year preceding the opening of the Panama Canal, the fiscal year 1914, the official figures show that the imports of the Pacific ports as a whole increase approximately 108 per cent; those of the Atlantic Coast ports in the same period show a gain of but 28 per cent. On the export side, the Pacific ports show an increase of 132 per cent in the 1914-22 period, while those of the Atlantic frontage show for the same term of years an increase of but 45 per cent. The total imports of the country as a whole increased slightly less than 40 per cent in the period 1914-22, while those of the Pacific ports alone were increasing over 100 per cent. The exports of the country as a whole increased less than 60 per cent, while those of the Pacific frontage were increasing 132 per cent.

To what extent this big increase in the trade of the Pacific coast ports, when measured by percentages, is due to the use of the Panama Canal cannot of course, says the *Trade Record*, be accurately measured, though it is known that shipments of wheat, canned salmon, lumber and other products of the

Pacific frontage now move directly by vessel from the Pacific coast ports to Europe and in a lesser degree to the eastern frontage of South America, while per contra European merchandise destined for the Pacific frontage now moves directly to the Pacific coast ports in some cases at least by the very ships which carried both wheat and lumber to Europe, thus making in each case an all water trip.

Another illustration of the increasing share which the Pacific coast ports handle of the trade of the country is found in the percentage which their imports and exports formed of the total trade of the country in the year preceding the opening of the Panama Canal, 1914, also in 1920, the year of the high record of United States imports and exports, and in 1922, all of these being fiscal years. In the fiscal year 1914 the imports of the Pacific coast ports formed 7.3 per cent of the total imports into the United States, in 1920 8.9 per cent and in 1922, 11 per cent. On the other hand the exports of the Pacific ports formed in 1914, 5.9 per cent of the export trade of the country, in 1920, 6.6 per cent and in 1922, 8.1 per cent. The Atlantic coast ports took 72.5 per cent of the imports of the country in 1914, 71.8 per cent in 1920, and only 67.5 per cent in 1922, and sent out of the country 55.1 per cent of the total exports in 1914, 62.9 per cent in 1920 and 50.1 per cent in 1922.

The table which follows shows in millions of dollars and one decimal the imports and exports of the ports of the United States in each year from the fiscal year 1914, the beginning of the war and the opening of the Panama Canal, to and including 1922.

Fiscal Year End'g June 30	IMPORTS				
	Atlantic Coast	Gulf Coast	Mexican Border	Pacific Coast	Northern Border
1914	\$1,374.6	\$120.3	\$32.8	\$136.1	\$205.2
1915	1,212.6	102.3	20.8	158.8	164.8
1916	1,562.1	110.1	33.7	262.9	214.1
1917	1,763.4	128.3	49.3	358.8	338.3
1918	1,711.7	146.7	46.6	617.0	404.5
1919	1,932.9	174.1	42.9	493.1	432.0
1920	3,763.6	304.2	39.1	467.1	627.8
1921	2,519.5	253.1	23.5	258.1	570.8
1922	1,759.6	156.8	8.5	287.1	380.6
Fiscal Year End'g June 30	EXPORTS				
	Atlantic Coast	Gulf Coast	Mexican Border	Pacific Coast	Northern Border
1914	\$1,304.1	\$566.3	\$16.6	\$136.2	\$341.1
1915	1,739.1	508.4	14.8	173.6	332.0
1916	3,039.1	485.4	20.5	273.1	555.2
1917	3,395.5	685.3	33.1	333.9	842.1
1918	3,881.7	715.5	51.0	491.4	779.9
1919	4,612.4	958.2	53.7	621.5	986.2
1920	5,104.0	1,446.3	59.7	534.9	963.8
1921	3,739.7	1,469.7	111.1	361.0	834.8
1922	1,888.2	922.6	74.6	315.7	569.7

"EXPORT MERCHANDISING"

A notable and valuable addition to the now considerable library of works on foreign trade from American pens is a volume by Walter F. Wyman on "Export Merchandising."

For many years Mr. Wyman has been active with pen and voice in encouraging American manufacturers to give serious consideration to the possibilities to overseas trade and has given generously of his time in helping the beginner in this trade and in aiding the more experienced to solve problems which his own ripe experience peculiarly fits him to undertake.

Hitherto, with one exception, Mr. Wyman's writings on the subject of foreign trade have appeared chiefly as articles in periodicals. It was therefore, particularly desirable that the view of so prominent an exponent of successful exporting should record them in more permanent form; and the present volume is especially welcome on that account.

Necessarily, a high standard of excellence is expected of anything in book form coming from a writer of such prominence in his field as Mr. Wyman. And the reader of "Export Merchandising" will not be disappointed.

The book is admirably arranged in thirty-six chapters, sequenced so that the student as well as the practical man of affairs may pursue the subject of selling goods abroad step by step from the inception of an export policy to its logical fruition in profitable sales. An excellent index facilitates ready reference to the many details entering into the treatment of the subject matter of the volume.

The book is a fine specimen of the printer's art, and moreover is illustrated by many photo-engravings in the selection of which the author has shown his usual excellent judgment.

The book is published by the McGraw-Hill Book Company, Inc., New York City, price \$4.00.

"MEXICO INDUSTRIAL"

The above is the title of a monthly review issued as the official organ of the Confederation of Industrial Chamber of Mexico (Confederacion de Camaras Industriales). Its circulation is among Mexican industrials and business men and it is published in Spanish.

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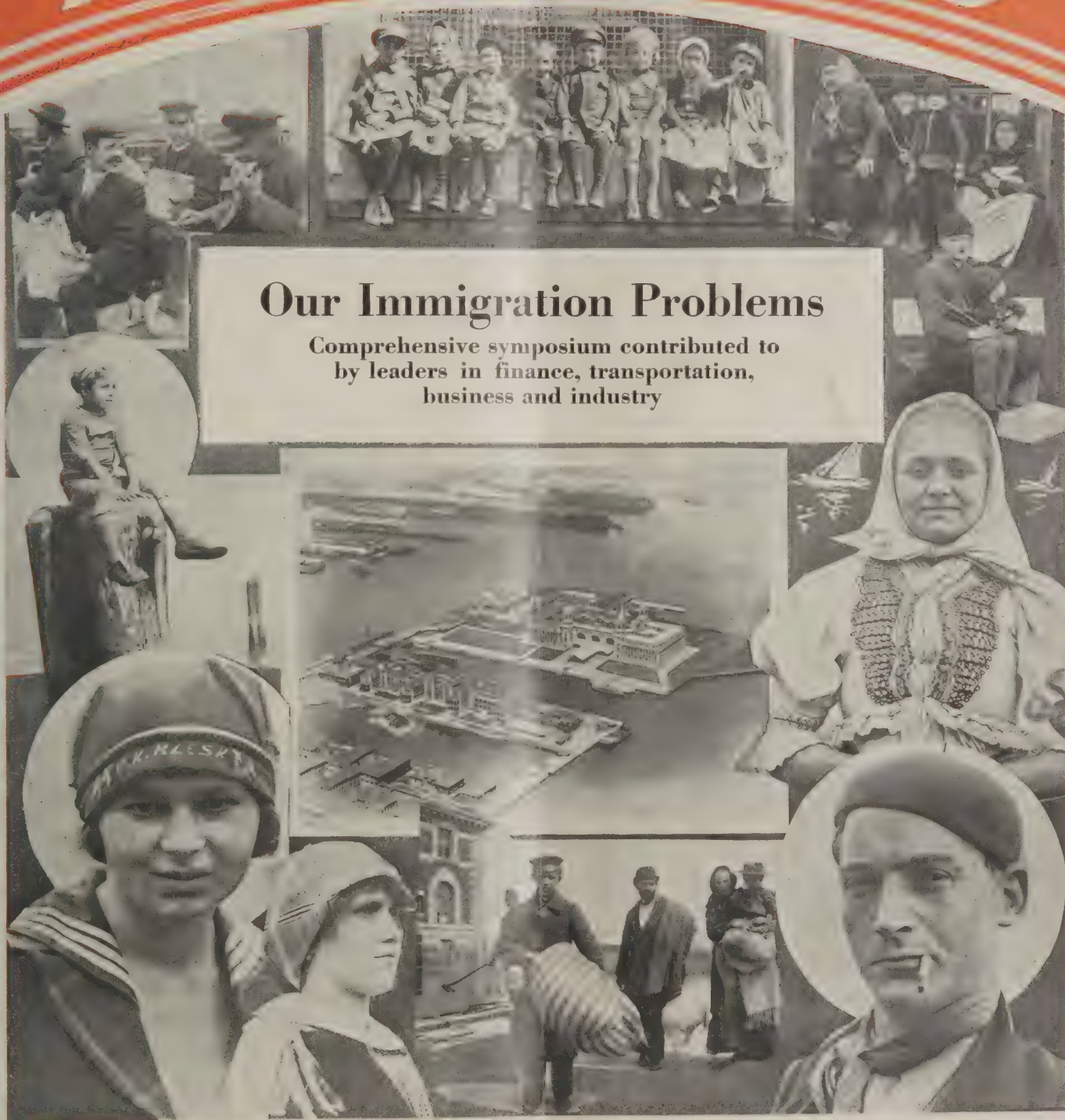
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Our Immigration Problems

Comprehensive symposium contributed to
by leaders in finance, transportation,
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ELLIS ISLAND AND TYPES OF IMMIGRANTS

FEBRUARY
1923

Volume XXIII
No. 7

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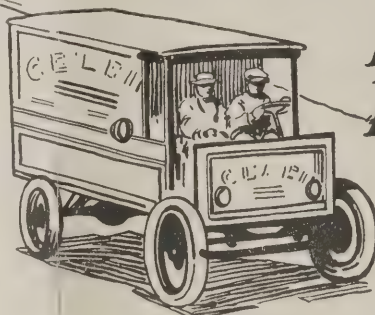
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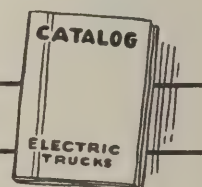


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FEBRUARY, 1923

No. 7

IN THIS ISSUE

Cover illustration: Ellis Island (an airplane view) and types of immigrants arriving from various parts of the world.

SYMPOSIUM ON IMMIGRATION:

	Page
Introduction by JOHN. E. EDGERTON, president National Association of Manufacturers - - -	5
Discussions contributed by:	
WILLIAM H. WOODIN, president, American Car and Foundry Company; WILLIAM BUTTER-	
WORTH, president, Deere & Company - - -	7
FINLEY P. MOUNT, president, Advance-Rumely Company; E. J. MILLER, president, St. Louis	
Screw Company; NELSON J. BOWKER, manager and treasurer, Pettebone-Cataract Paper Co. -	8
E. H. GARY, chairman, United States Steel Corporation; GUY E. TRIPP, chairman, Westinghouse	
Electric and Manufacturing Company - - -	9
LEE J. EASTMAN, president, Packard Motor Car Company of New York; B. F. DULWEBER, presi-	
dent, Kraetzer-Cured Lumber Company - - -	10
J. R. HOWARD, president, American Farm Bureau Federation; WILLIAM H. FINLEY, president,	
Chicago and Northwestern Railway Company - - -	11
P. C. THOMAS, president, Rome Manufacturing Company; FREDERICK D. UNDERWOOD, presi-	
dent, Erie Railroad - - -	12
JOHN C. HASWELL, president, Dayton Malleable Iron Company and chairman, Immigration Commit-	
tee, National Association of Manufacturers; C. H. MARKHAM, president, Illinois Central System	
E. E. LOOMIS, president, Lehigh Valley Railroad Company; E. B. LEIGH, president, Chicago Rail-	
way Equipment Company; WILLIAM J. FAUX, president, Logan Coal Company - - -	14
HENRY ABBOTT, president Calculagraph Company - - -	15
CHARLES A. MUNROE, vice-president, People Gas Light and Coke Company - - -	16
HENRY HERBERMANN, president, Export Steamship Company - - -	17
CLARENCE HODSON, president, Beneficial Loan Society - - -	18
A. B. FARQUHAR, president, A. B. Farquhar & Company; E. KENT HUBBARD, president, Manufac-	
turers Association of Connecticut - - -	19
AUGUSTINE DAVIS, president, Davis Automatic Equipment Company - - -	20
JULES S. BACHE, president, J. S. Bache & Company - - -	21
STEPHEN C. MASON, secretary, McConway & Torley Company - - -	22
A. H. MULLIKEN, president, Pettibone Mulliken Company; Captain WILLIAM P. WHITE, treas-	
urer and general manager, Lowell Paper Tube Corporation - - -	23
CHARLES R. GOW, president, Associated Industries of Massachusetts; S. D. WEIL, vice-president,	
Arco Company - - -	24
GEORGE H. WILSON, secretary-treasurer, U. S. Bobbin and Shuttle Company; WALTER RENTON	
INGALLS - - -	25
JULIUS G. LAY, Speyer & Company - - -	26
F. R. VALENTINE, president, M. D. Valentine & Brother Company - - -	27
DANIEL WILLARD, president, Baltimore & Ohio Railroad Company; GEORGE L. MARKLAND,	
president, Philadelphia Gear Works - - -	28
W. W. HUSBAND, Commissioner-General of Immigration - - -	29
CHARLES H. SABIN, chairman Guaranty Trust Company of New York; HAROLD H. EMMONS,	
president, Detroit Board of Commerce - - -	30
FREDERICK A. WALLIS, formerly Commissioner of Immigration, Port of New York - - -	31
A. C. REES, manager, Utah Associated Industries - - -	34
PROF. ALBERT SHIELS, Teachers College, Columbia University - - -	36
JOHN L. LOVETT, general manager, Michigan Manufacturers Association - - -	37
A. J. LINDEMANN, president, A. J. Lindemann & Hoverson Company; J. W. RING, president, Model	
Mill Company - - -	38
ADELBERT MOOT, Moot, Sprague, Brownell & Marcy; MICHAEL J. HICKEY, assistant secretary,	
National Industrial Council - - -	39
THE FULL REPORT OF THE UNITED STATES COAL COMMISSION - - -	40
FOREIGN TRADE OPPORTUNITIES - - -	47



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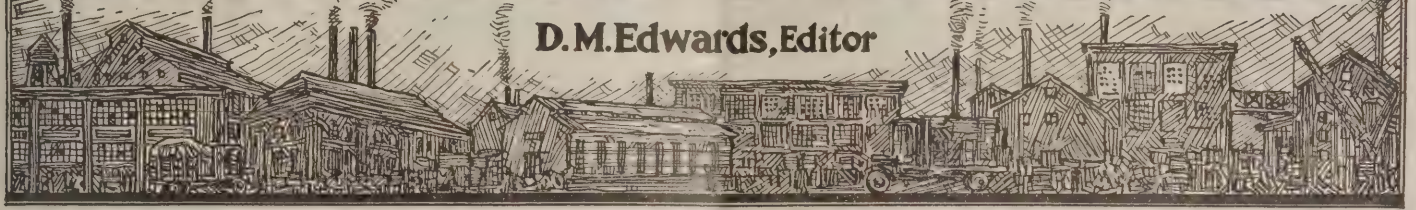
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American Industries

D.M. Edwards, Editor



Vol. XXIII

FEBRUARY, 1923

No. 7

The Problems Of Our Immigration

Comprehensive symposium, contributed to by leaders in finance, transportation, business and industry, points out evils of the existing laws and makes recommendations for a national policy

Introduction by JOHN E. EDGERTON
President, National Association of Manufacturers

IMMIGRATION is perhaps the most important problem before the country and its Congress to-day. Its influence and effect are far-reaching and vital forces not only in our industrial life but in the entire economic life of the nation.

With a desire to present the views of a representative body of industrial and general business men on this all-absorbing subject, AMERICAN INDUSTRIES publishes in this issue a symposium on immigration, contributed to by foremost business men, professional men, financial and industrial leaders in various sections of the country.

The magazine sent to a large number of recognized leaders, a letter asking for an expression on the question: "What shall we do about our immigration?" As in previous symposiums, no effort was made to suggest or influence responses along given lines. The broad viewpoint was sought and every comment received is here printed in full and without change.

As a manufacturer deeply concerned in immigration problems; as an employer of labor, and a strong believer in the great ideals of the American republic, I have taken a keen interest in reading these expressions, and am profoundly impressed by the thought given, the conscientious analysis made and the strength and practicability of the composite recommendations offered.

Almost unanimously these expressions declare that the present Three Per Cent Immigration Law should be amended; that it has not been the complete panacea for our immigration ills that was predicted; that while it has kept some of the undesirable citizens from the country it also has kept out many thousands of very desirable, industrious immigrants.

Summing up the statements, the outstanding recommendations are:

1. The present Three Per Cent Immigration Law should be amended; but with the view to admitting more of the desirable class of immigrants and prohibiting the undesirables.

2. The quota should be determined with the ultimate object of obtaining net immigration and not according to the present method which causes a deficit of labor in many instances.

3. The Secretary of Labor should be authorized, on the presentation of satisfactory evidence of a shortage of labor in any industry, to bring about the admission of desirable immigrants to fill the special need.

4. A scientific selection of immigrants should be made by the proper United States officers, on the other side of the ocean, so that intending immigrants who do not qualify may be rejected at the port of embarkation, rather than to permit them to come to these shores and then be turned back at Ellis Island when deportation becomes a more difficult matter.

5. A centralized bureau or commission should be set up, so that all matters respecting immigration may be handled completely by it in the most expeditious, efficient and practical way; this commission to know the needs of the various sections of the country for immigrants and the channels which would provide the most satisfactory means of assimilation.

6. We should adopt a more definite policy in the registration and distribution of the immigrant.

7. The nation should extend and make more human its method of receiving immigrants.

8. A broader method of immigrant education is needed; one that will take him from the time of his entry and guide him properly for his naturalization. Perpetuation of American ideals should be the fundamental basis for admission.

9. The manufacturers and business men believe in a restrictive policy—restricted through broad selective methods.

10. Take immigration out of the maneuvering of politics, which lets in many of the bad and keeps out many of the good.

11. There is a shortage of skilled and unskilled labor in practically all of the large industrial centers and the country must draw upon European immigration to fill the ranks.

12. Abolition of the literacy test.

Meeting, in a general way, many of the suggestions that are given by leaders of business and industry, the National Association of Manufacturers has already had introduced in Congress a measure providing what it believes will relieve

the present emergency of labor shortage, so evident in all parts of the country. This measure, introduced by Senator LeBaron Colt, of Rhode Island, provides among other things for calculation of immigration on the net admission, and gives to the Secretary of Labor authority to permit desirable immigration to fill needed labor ranks.

Looking further ahead, and with the view to establishing a permanent, constructive policy of selective immigration—a policy that has been advocated by thousands of persons with the best interests of the country at heart—the National Association of Manufacturers will soon submit the following as principles to be embodied in our future immigration measures.

1. That the United States should retain the tests for mental, moral and political quality fixed in the law of 1917, except the literacy test, which we believe experience has demonstrated to be an ineffective means of determining the quality of an alien and which neither measures the economic or moral value of the applicant for admission, on the contrary, may reject the possessor of these virtues while affording no obstacle to the literate revolutionary.

2. That distinction be made between the above requirements for admission and those for naturalization, the latter requiring as a condition of citizenship a working knowledge of English and a practical understanding of the form and purpose of American government and evidence of attachment to its principles, all the conditions for naturalization being so far as practicable administered by officers of the United States before the embarkation of the alien.

3. That the United States assert the right to register, distribute, educate and otherwise supervise the alien during the period of his alienage.

4. That all immigration legislation be administered through a board composed of the Secretaries of Agriculture, Commerce and Labor, thus securing the coördination of the departments possessing the information charged with primary responsibilities for meeting, on a national scale, the economic and social problems involved.

5. That through the effective coöperation of state authority and private organizations, information as to immigrant needs and opportunities be compiled, analyzed and presented to the Federal Board, and further coöperation be established to present the economic needs of the nation in terms of ascertained fact to protect the immigrant against exploitation and secure for him accurate information as to existing opportunities throughout the nation.

America needs immigrants; that cannot be denied by anyone familiar with industrial conditions. With all the progress this nation has made in the last few decades the fact still remains that we have only partly utilized our resources. The future wealth and also the future comfort of our people are dependent upon further progress. We have developed many industries tremendously during and

since the war. We have given our people many luxuries that have, in the light of present-day living, become essentials for health, comfort, happiness and progress. We have set a pace in production that we must not relax and that means we must have sufficient workmen. If we cannot procure them at home we must get them from abroad, or accept crippled production and crippled conveniences.

Under the Three Per Cent Immigration Act only about 350,000 aliens are permitted to enter the United States in one fiscal year. But during the first year of the operation of the law only about 242,000 immigrants entered. In the five years preceding the war, 1914 to 1919, the average net annual immigration was about 925,000. The war stopped all immigration, so that with the exception of one year since there has been little or no immigration up to the passage of the restrictive act. It has been unlawful for either individuals or the state to induce immigration or to make prospective labor contracts with aliens before their arrival in the United States. Further, during recent years, the movement of alien labor from the United States has been greater than its movement into the country. Thus, in 1921-1922, the first year of the operation of the present act, the net loss to the United States through emigration of laborers was roughly about 67,000 while the net gain during that period in adult male immigration was only 6,518. The chief net gain was in trading and commercial classes. It must be apparent that with substantially six years without immigration and only one year with considerable immigration under the act of 1917, before the passage of the restrictive act, the normal labor supply through immigration, shows a serious loss.

Manufacturing industries are not the only ones feeling the loss. It is manifest in agriculture, construction and transportation. To be more specific as to manufacture, a recent survey made by the National Association of Manufacturers shows there is an actual shortage of skilled labor reported in California, Colorado, Connecticut, Indiana, Massachusetts, Michigan, Montana, New Jersey, Ohio, Rhode Island, Utah, Washington, Wisconsin, New York, Pennsylvania and Virginia. Common labor is reported short in New York, Pennsylvania, Michigan, New Jersey, Ohio, Virginia, Wisconsin, Connecticut, Indiana, Maine, Massachusetts, Rhode Island, Utah, Vermont and Washington. These shortages do not follow any general lines, and are variously estimated to run anywhere from slight to as high as thirty per cent. They affect many of the industries, but are most noticeable in furniture, automobiles, metal trades, collar and shirt, iron and steel, chemical, machinery, glove, tanning, cordage, twine, building, mines and silk. The automobile industry reports the greatest shortage, although predictions of unusual shortages in the building trades are made for the spring, when this industry assumes its full operation.

A MERICAN INDUSTRIES wishes to express its sincere appreciation of the interest and courtesy shown by the remarkably large number of financial, agricultural, transportation, industrial and general business leaders who have given so generously of their time to prepare articles especially for publication in our Immigration Symposium.

We deem it an unusual privilege to be able to present such a nation-wide and representative thought from the builders of the nation's industry and business.

—Editor American Industries.

Education, The Most Vital Necessity

Written especially for AMERICAN INDUSTRIES

By WILLIAM H. WOODIN

President, American Car and Foundry Company

STATEMENTS in regard to immigration, whether they be from the point of view of the employers or from the point of view of the workers, are too much inclined to discuss immigrants in terms of "labor power" or "man power" rather than to discuss immigrants as human beings in family relationships, as potential consumers, potential citizens and potential factors in our American life.

Whatever the final plan of this country may be in regard to an immigration policy, whether it be for a liberal, a restricted or a selected immigration, it cannot, in my opinion, be repeated too often, that the principal concern of Americans should be to prepare for the assimilation of these immigrants in a thorough, scientific, and humane fashion.

Perhaps the greatest contribution which America has made to civilization has been its high ideal of public education, and there is no force in our common life which can be utilized more effectively in a program of assimilation than that of education. Education not only in the English language and in the civics of our American commonwealth should be offered to the incoming immigrant, but as much education as he needs and can utilize in all other fields.

Not only the public school systems but the educational and philanthropic organizations throughout the country

can be enlisted in a coöperative scheme for the education of our newly arrived immigrants in America. Even a casual survey in any moderate sized



William H. Woodin

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American community will show unutilized educational resources which, if properly coördinated with other activities in the same community, could be made available for a greatly increased program of immigrant education.

It is not sufficient merely to offer to

the immigrant these educational opportunities, which often sound rather terrifying to the almost illiterate man or woman. We must be prepared to urge and persuade immigrants to take advantage of these opportunities, and for this program we must penetrate, in a coöperative way, into the organizations and religious institutions in which they have faith. Certain reforms must be brought about in our attitude and procedure in regard to immigrant education. Most of the red tape of the school system must be eliminated. Teaching services, especially trained for dealing with adult minds, must be provided. More informal schemes for meeting the educational needs must be developed and more elasticity in the handling of individual students. All these are matters in the improvement which can be effected only by the sincerest co-operation between public educational authorities, private philanthropic agencies, religious bodies, civic organizations and organizations of foreign-born people.

The success of the Council on Immigrant Education in the City of New York in coördinating these five types of organizations and focusing their interest upon an enlarged, improved and intensified scheme of immigrant education has prompted me to recommend to other communities a similar effort.

Should Make Our Selections Abroad

Written especially for AMERICAN INDUSTRIES

By WILLIAM BUTTERWORTH

President, Deere & Company

IN response to your request for an expression from me on the question of immigration, I beg to say that the subject is one of vital importance to the employers of labor.

The present percentage law does not admit enough immigrants to take the places of those who leave the country to say nothing of those common laborers who ambitiously desire to be promoted from a roustabout job to something better.

I know of very few employers who favor a wide open door. The almost unanimous wish is for a selective sys-

tem by which the eligibility of an immigrant would be determined in the country from which he comes. This is my own view.

It will take some time to work out the details of a permanent law which should be given the most careful attention and a great deal of study. As a temporary aid to agriculture and industry, a suggestion has been made which appeals to me, that is:

1st. A definite effort be made by our Government to fill the quotas from those countries that are now unfilled, which could be done by agents sent

over into those countries, as Canada does, or we might do it through the United States Consuls, by giving them the right kind of information, to give out in their respective countries.

2nd. The wives of naturalized aliens might be admitted without being counted against the quota.

3rd. Where an alien family comes into this country, it might be counted as a unit against the quota, that is, the man and his wife and children under sixteen years of age to be counted as one; those children over sixteen to be counted individually.

By taking these steps we might very materially increase our immigration without any material change in the law. I believe the general consensus of opinion is that selection should be made abroad, if it is possible to do so. If the law is changed, an important improvement would cover the distribution of immigrants after they get here, by seeing that they are landed in places where they are needed and not where there is already congestion.

A provision requiring the immigrant to learn to read, write and talk the English language would be valuable in that it would then throw the burden upon the immigrant himself and not upon our people who may or may not be interested in his development. It would be very helpful if we could have such a provision.

Any legislation or action by the Government which would give relief would be helpful, but a law which will govern immigration over a period of years requires, as I have already said, very serious study, which should be made by a Commission something similar to that of 1907-10, who should study the problem with reference to the needs of industry and the country generally.

SUGGESTS PERIOD OF FIVE YEARS' RESIDENCE

Written especially for AMERICAN INDUSTRIES

By FINLEY P. MOUNT

President, Advance-Rumely Company

IFAVOR such a change in our immigration laws as will not restrict the total number of immigrants but definitely limit all immigration to those whose mental, moral, physical, financial qualifications and political history have been examined into and favorably passed on by a Board of U. S. Examiners sitting in the country where the immigrant has lived the five years preceding his application to such board for vise to embark.

I would not have a literacy test or financial qualification greater than reasonably to insure against becoming a public charge. As a condition precedent to entering the United States, would require a registration of the immigrant and application for United States citizenship with an undertaking to report to the Immigration Bureau every six months until full citizenship is acquired; a further undertaking to refrain from voting or attempting to vote in any state or municipal election until granted full citizenship in the United States.

Would require a period of five years' residence and compliance of above undertaking before granting citizenship. Any failure to report as re-

quired, or violation of undertaking, or conviction of felony, automatically to result in deportation; the deportation power to be exercised by the Immigration Board with right of appeal to U. S. District Courts.

These provisions would, in my judgment, remove the greatest evils now attending our immigration problems, and would go far toward making acquired citizenship in the United States a possession too highly prized to be jeopardized.

IMMIGRATION A QUESTION OF DESIRABLE OR NOT

Written especially for AMERICAN INDUSTRIES

By E. J. MILLER

President, St. Louis Screw Company

MY view on immigration relationship to a nation is the same as employe relationship to a business.

Would any sane business man restrict the progress and growth of his institution by restricting the number



E. J. Miller

of his assistants or helpers, particularly, on a percentage basis?

Human beings to a nation may be classified as all Nature's creations into assets and liabilities; therefore, limitation should be applied to the latter only if we aim at greater prosperity.

We should welcome with open arms all who can assist in developing our resources and who are found by examination to have the attributes and desire for good citizenship.

It was such a people and their descendants who founded this nation and developed its prosperity. The question then resolves itself into a determination of the desirable or undesirable and not a fixed percentage of either.

This determination must be based on a consideration of the intelligence and physical qualifications as well as the racial tendency of the applicant in order that we may encourage thrifty self-supporting producers instead of traders, and further consideration of his record and connections in order that we may eliminate the criminal and dangerous ultra radical.

It is to be regretted that minds inspired by selfishness have created the many uneconomic conditions under which we are laboring and which we find it hard to eradicate.

NEED FOR PRACTICAL IMMIGRATION MEASURE

Written especially for AMERICAN INDUSTRIES

By NELSON J. BOWKER

Manager and Treasurer, Pettebone-Cataract Paper Company

ANYONE who has gone into the matter of immigration into the United States for several years past knows that the laws which have governed the same have not been to the great benefit of the public interest. The literacy test is a failure in so far as determining the quality of an alien for entering this country, and the practice of making a physical and mental test after arriving at the ports of this country is most inefficient and unjust both to the immigrant and to our own country.

By all means this government should adopt some such practical immigration regulations as are in vogue in other countries and adopt the recommendations which have been made by an association of honorable business men and also many private citizens, together with representatives of Farm Bureau Federations.

I believe much can be done at the present session of Congress providing the House Committee in charge of this important matter will heed some of the suggestions of those who have a thorough understanding of the situation and are advising for the best interest of the whole country. Surely we as a people cannot expect to progress and develop as we should without the proper kind of immigration rightly divided. Taking as an example the Italian population in my own city, double the number have returned to Europe as have come to this city (Niagara Falls) in the past five years and the shortage of labor in this city both skilled and unskilled is becoming more acute each day.

Present Law Should Be Changed

Written especially for AMERICAN INDUSTRIES

By E. H. GARY

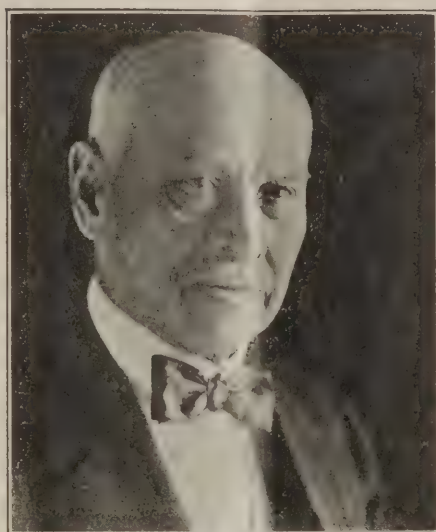
Chairman, United States Steel Corporation

JUST at this time it is generally recognized there is a shortage of labor, although now and generally there are considerable numbers of idle men who do not ask for or desire steady work.

For various reasons many workmen have returned to their homes in foreign countries. Business here was dull, and besides, these men on account of very large wage rates had accumulated money and believed themselves to be independent.

The shortage in labor, however, has come principally as the result of the percentage immigration laws which have limited the number of workmen who would now come to this country if not prevented by the laws referred to.

After some experience these laws are now believed by large numbers to be unreasonable. Ostensibly, at least, they were aimed at the sudden and large increases in the foreigners who



E. H. Gary

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were locating here, many of them entertaining views hostile to the ideas of our Government.

These laws ought to be promptly changed. The restrictions upon immigration should be directed to the question of quality rather than numbers of foreigners coming to this country. Measures for limiting the number of immigrants to those who are clearly shown to be healthy, morally, politically and physically, ought to be clear, strict and enforceable; but the number allowed to come here should be equal to the necessities of our industries.

The administration of the law should be under the control of a competent and impartial governmental commission or department, to be managed for the benefit of the general public and not for the protection of any special class or the exploitation of any impractical or injurious theory. This is one of the most important questions now being debated throughout the United States.

Not Wholly An Economic Problem

Written especially for AMERICAN INDUSTRIES

By GUY E. TRIPP

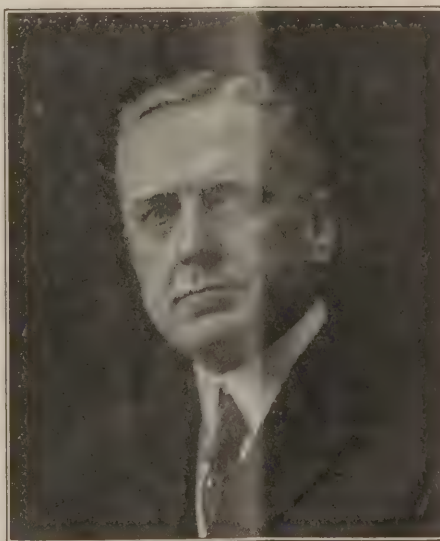
Chairman, Westinghouse Electric and Manufacturing Company

THE immigration problem is not wholly an economic one; man being very much the product of his environment, there arise social and political factors in the assimilation of the immigrant, which must be given consideration in order that we may determine the reciprocal influence of the alien on our institutions, and of our people on the alien.

It is a splendid indication of the growing social consciousness of our industrialists that employers in their discussions of immigration are giving increasing attention to the social factors of the problem.

Immigration itself is a stream. Any immigration law that fixes limitations or restrictions on free migration is a dam. Most people are agreed that the dam is necessary to keep out such groups as the criminal, the insane, the pauper, the anarchist and those likely to have a detrimental influence on our welfare. On the other hand, there is equal agreement that any legislative proposal that attempts to restrict the flow of migration by setting up a mathemat-

tical ratio without regard to selection or distribution of the immigrant, the needs of our industries and other nec-



Guy E. Tripp

essary aspects, is undesirable as either a short time or as a permanent solution. The present Per Centum Limit

Act was definitely passed by Congress with the understanding that it was temporary and would be replaced by more permanent legislation before its expiration. This Act has been extended until June 30, 1924, but new legislation will be required before that time.

As to the course to be pursued in relief of the present situation pending a complete revision of the Per Centum Limit Act, I cannot do better than to quote some of the suggestions recently put forward by representatives of the National Industrial Conference Board at a Joint Conference on Immigration:

(a) A definite effort on the part of the government to fill unfilled quotas. This can be done by sending a small number of agents to the northern and western European countries to explain the opportunities in the United States to persons interested in emigrating thereto, or by advertising in newspapers of northern Europe. While the contract labor law prohibits the taking of such steps by private employers this objection does not apply to the government taking such action. The

agents on the other side could size up the immigrant and his fitness for life and work in America. They could advise him and their advice in effect would constitute a letter of recommendation, although they themselves would not have power to certify the individual's admission.

(b) Wives of naturalized aliens shall be admitted without being counted against the quota. At present children under eighteen of naturalized aliens are admitted without counting against the quota.

(c) Alien families coming together to be counted as one unit against the

quota. Families to mean father and mother accompanied by children under sixteen years of age or mother accompanied by children under sixteen years of age; children over sixteen years of age to be counted against the quota and the same with all other relatives of aliens in the United States.

Intelligent Selection Greatest Need

Written especially for AMERICAN INDUSTRIES

By **LEE J. EASTMAN**

President, Packard Motor Car Company of New York

OUR immigration policy has played a very important part in our past history. It promises to play even a more important part in our future. It seems to me that what is required is not so much a policy of arbitrary restriction, as the formulation of a policy and method of procedure that has for its basis intelligent selection of the more desirable types of emigrant at the port of embarkation. Taking both immigrants and non-immigrant aliens admitted to and departing from this country, this first fiscal year shows a net loss of 11,687 males to this country.

The largest net immigration was of English, French, German, Hebrew, Mexican and Scandinavian people, in short of the races from which the skilled rather than the common labor of American industry has been recruited. Of the Hebrews, who are chiefly clerks and traders, etc., 53,524 entered while only 830 left. The following races have hitherto supplied the bulk of common labor: Bohemians, Czechs, Bulgarians, Serbians, Croatians, Slovenians, Poles, Greeks, Italians, Lithuanians, Magyars.

More people of these latter races

have left the country this fiscal year than have entered.

Against 41,154 Italians admitted, 54,010 left the country. During this



Lee J. Eastman

same period I understand only 6,357 Poles entered while 31,004 left the country.

Selection of the proper type required at the point of embarkation together with the routing of those classes to the point best able to assimilate them would help this condition that so adversely affects American industry. This would seem to me to be a more forward looking policy than the policy now in operation.

The present method puts the burden of whether a man is a desirable type for admission, not so much on: Of what stock is he? Is there a place for him in our present economic condition? Is he the type that will make a good citizen? Not so much on these important qualifications, but rather place the possibility of acceptance on the ability of the captain, and the efficiency of the engineering staff of this ship on which the emigrant is a passenger to make port on the first day of the month. When the selection of our immigrants is a matter of skill on the part of a ship's captain, or the grade of coal this ship is burning, then there is room, very much room, for improvement from any angle that one may care to approach the question, economic, idealistic or humanitarian.

Want Immigrants Of The Industrious Type

Written especially for AMERICAN INDUSTRIES

By **B. F. DULWEBER**

President, Kraetzer-Cured Lumber Company

WE are opposed to unrestricted immigration, but there is unquestionably a shortage of labor, and we favor an amendment of the present laws that will admit the better class of immigrants who have sufficient intelligence to appreciate the freedom and privileges that accrue to them through our form of government, and who it is believed can be developed

into satisfactory American citizens. Such immigration would be of great value to this nation, and would open up to the individual immigrants opportunities that are not available in any of the foreign countries.

We would favor particularly bringing much of this immigration through our Southern ports and using it in the development of our Southern agricultural lands. For the most part these

foreigners are good farmers, would be able in a comparatively short time to develop and acquire small farms, would live in contentment and become useful citizens, whereas if thrown in great numbers in the large industrial centers they become a fertile field for the unscrupulous radical agitators, and constitute a menace to society and orderly government.

The Farmer's Need, A Real Price

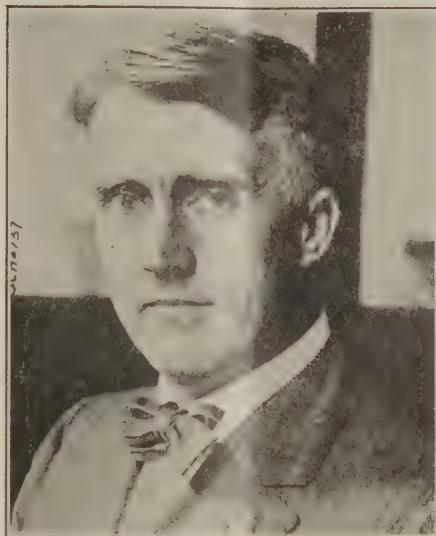
Written especially for AMERICAN INDUSTRIES

By JOHN R. HOWARD

President, American Farm Bureau Federation

CERTAIN agricultural localities, during the past fall, experienced a touch of labor shortage and indications are that with the increased activities in industry and building there will be a more acute shortage during the coming year. This, however, should not alarm the farmer or the country at large since our farm prices are always good in periods of labor shortage and bad during extended periods of unemployment.

What the farmer needs is price. I do not mean price in dollars and cents so much as real price which consists in the exchange relationship of the farmer-produced commodity and his necessary consumptive needs. An increased immigration, providing there is a sufficient need for it, might assist in establishing this price in two ways. The first would be through the increased domestic consumption due to the increased immigration. It is always better for the farmer that his product be consumed at home than



John R. Howard

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abroad. Second, if an increased immigration should increase industrial production it would automatically cheapen the price of the things which the farmer must buy whether they be

commodities or transportation.

Some interests are discussing the letting down of immigration bars on the ground that it is demanded by the agricultural interests. Cheap labor is not what the farmer wants. He himself is a laborer and the number of those gainfully employed in agriculture indicates that approximately one-half the farms of the country are manned by the farm family itself. To cheapen labor on the farm would be to cheapen the labor of these farmers and their families. The welfare of the country demands that this be not done because it would eventually lower the standards of citizenship on our farms. In a democracy like ours the will of the majority rules and the nation is infinitely safer with a well-to-do and contented agricultural husbandry than it would be were the manhood and womanhood on our farms lowered in its level through the introduction of cheaper labor from any source whatsoever.

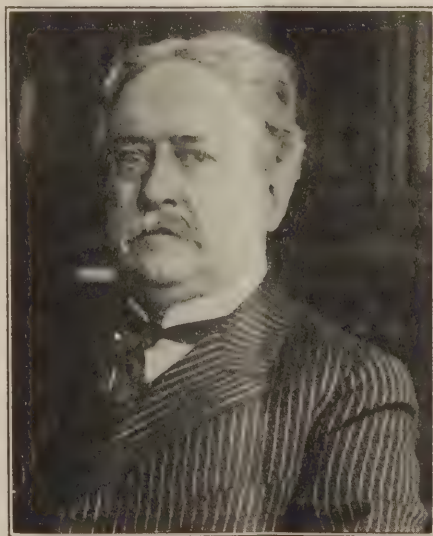
Should Encourage Good Immigrants

Written especially for AMERICAN INDUSTRIES

By WILLIAM H. FINLEY

President, Chicago and Northwestern Railway Company

IBELIEVE that the present restrictions upon immigration are unnecessary and unwise. From a material standpoint this country needs to augment its labor supply. There is not enough labor to carry the work and there is no place from which labor can be recruited in sufficient magnitude except from European countries. We must have common labor and skilled labor. Our civilization cannot progress without it. Our endeavors and our desires are being thwarted at the present moment because of our inability to obtain labor. The shortage of labor is resulting in constantly increasing wage scales and lowering the efficiency and output. Higher wages are a desirable condition but when they are the result of artificial restrictions they are coupled with a more rapid advance in living costs so that the objective sought to be obtained and which makes advance



William H. Finley

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in wages a desirable condition is defeated.

It would do more harm than good, however, to permit the unrestricted influx of immigrants, for we must assume that every immigrant is a potential citizen, and our immigration laws should be framed with the objective of obtaining the greatest number possible of additional good citizens. There are many people in the old world of the same races and ideals as those who have in the past sought refuge in this country from the unbearable conditions of the old world who cherish high ideals and have ambitions for themselves and their descendants of the most worthy sort. Such people should be encouraged to come to this country in as great numbers as possible. Those who have not such ideals and purposes should be excluded regardless of their availability for recruiting the labor supply.

In connection with our immigration problems we should provide for the

proper reception and education of the immigrant, so that when he is here he will have an opportunity to learn the meaning of American ideas and ideals. American ideals are simple and easily understood, as well as impressive and appealing, to the simple

minded in as great degree as to the highly educated individual, and there should be no difficulty in inculcating these ideals as well as an understanding of the responsibility attaching to citizenship in this country, in the mind of every well intentioned person who

seeks a home in this country. A little thought and effort along these lines would meet with astonishing success and would effectually dissolve most of the misapprehension which we apparently harbor concerning the danger of too rapid admission of immigrants.

Emigration Exceeds Immigration

Written especially for AMERICAN INDUSTRIES

By P. C. THOMAS

President, Rome Manufacturing Company

WHILE it must be the best thought of every red-blooded American that Congress should enact laws which will so restrict immigration that it would be impossible for aliens to be granted admission into the United States unless it is almost a surety that they have the qualifications for becoming good American citizens; still it must be apparent to every employer of labor, and others giving the matter careful consideration, that the present immigration laws are not working for the benefit of the country and if persisted in are bound to result in economic chaos.

The shortage of so-called common labor already exists in this community and, if I am correctly informed, already exists, or will shortly exist in every industrial center as well as the agricultural districts throughout the country.

Immigration prior to the World War amounted to approximately 925,000 persons annually. Of this number a large proportion were registered as laborers. During the war immigration almost entirely ceased. With the exception of one year, since the war the gain has been extremely limited, and among certain classes has been exceeded by emigration. In other words, in the year ended June 30, 1922 approximately 67,000 more of the so-called common laborers left the country than entered it.

The argument used by the proponents of the present law, to the effect that there is nothing wrong with the law in that the quotas of Northern

European countries are not being fulfilled, does not, I believe, satisfactorily remove the difficulty, as, generally



P. C. Thomas

speaking, most of the so-called common labor comes from Southern European countries rather than from the Northern European countries.

If it is true that the industrial supremacy of the United States has been built up largely by the immigration to this country of large numbers classified as laborers, and if this immigration ceases, or is more than offset by the emigration of this class, it must be apparent that sooner or later it will affect the whole industrial order and prevent the adequate expansion of industry, which eventually would affect the employment of addi-

tional skilled labor.

It is my belief that whether or not the three per cent restriction be rescinded, and whatever the percentage decided upon by Congress, it should be figured on the net. In other words, the percentage should apply on the figures obtained by deducting the emigration from the immigration and not as at present, applying to immigration only. This percentage, if fixed by Congress, should be made elastic so that some Federal authority, probably the Secretary of Labor, could increase the quota when the necessity for an increase in a certain class of immigration was apparent.

The question as to whether or not an immigrant is to be admitted into this country on arrival should in some manner be determined at the point of embarkation rather than on arrival here. The cost of transportation, particularly in terms of American dollars, makes the risk too great for the immigrant to take a chance unless assured of admission upon arrival.

As previously stated, every precaution should be taken to protect our citizenship and to see that the right kind, and only the right kind of aliens is admitted. At the same time it appears to me that under the workings of the present law we are closing the doors to many desirable future citizens and at the same time building up an unsound economic structure which is bound to react on American industry and agriculture if continued in for any great length of time.

Would Erect Barrier Against Non-Producers

Written especially for AMERICAN INDUSTRIES

By FREDERICK D. UNDERWOOD

President, Erie Railroad Company

THE fact should not be lost sight of that there are now about a quarter of a million men engaged in bituminous coal mining in the United States that could be employed more profitably to themselves and to the good of the country in other occupations.

That surplus force should be kept in mind in making up what might be called a budget in the matter of immigration.

Heretofore a quantity of immigrants has arrived, without regard to quality. My idea of immigration is that all skilled artisans and skilled tradesmen should be admitted. Ex-

clude all others who do not work with their hands. Pay especial attention to their character and physical condition.

There are far too many foreign-born exploiters and non-producers already in our country, and it should be made impossible to bring in any more.

Law Should Deal With Net Quotas

Written especially for AMERICAN INDUSTRIES

By JOHN C. HASWELL

President, Dayton Malleable Iron Company and Chairman, Immigration Committee, National Association of Manufacturers

THE subject of immigration has received the assiduous attention of the Immigration Committee appointed by the National Association of Manufacturers during the past two years. The country is now confronted with a situation in which the public interest requires some immediate practical remedy if the threatened partial paralysis of industry is averted and if the economic supremacy of our country is to be maintained.

Our present immigration law is extremely defective in many vital particulars. The literacy test for instance does not determine the quality of the alien for citizenship either economically or morally but on the contrary rejects many desirable applicants while affording no obstacle to the highly undesirable revolutionaries. A distinction in this regard should be made between the requirements for admission and those for naturalization, it being entirely proper that we should supervise aliens during the period of alienage and require a working knowledge of English and a practical understanding of the form and purposes of the American government for naturalization as distinguished from admission to the country.

The operation of our three per cent law is abortive inasmuch as it deals only with those coming into the country and takes no account of emigration. This last year more Italians emigrated from this country than

entered, leaving an actual deficit, and the same may be said of the emigration and immigration to and from many



John C. Haswell

other countries. The law should deal therefore with net quotas but in addition to this our committee maintains that the Secretary of Labor should be authorized on presentation to him of satisfactory evidence of a continuing shortage of labor of a particular class or type to admit otherwise admissible aliens in excess of the quota until such a condition is improved.

The House Committee on Immigra-

tion seems to feel that the natural increase in American labor ought to take care of the requirements of industry without calling upon immigration to any large extent. The fact is, however, that the economic progress of our country from the beginning has been dependent upon recruiting labor for the basic industries from European immigration. Foundries, steel mills and other similar industries have been unable to procure American labor in sufficient quantities in recent years, due to the tremendous development of new industries such as the automotive industry, chemical industry, radio appliances and other products of genius which with their accessories furnish attractive employment for the American youth far beyond that of the class of industries first mentioned.

Finally, we maintain that American industry stands for the highest type of citizenship and we demand that no bar shall be lowered which means the admission of a single immigrant who does not intend to incorporate himself into our body politic as a citizen and who is not capable of American citizenship. James Madison in his report to the first Congress stated a principle that should not be deviated from when he said, "We should welcome every person of good fame that really means to incorporate himself into our society but repel all who will not be a real addition to the wealth or strength of the United States."

Should Base Law On Common Sense

Written especially for AMERICAN INDUSTRIES

By C. H. MARKHAM

President, Illinois Central System

IN my opinion the attitude of the nation toward the immigration problem should be founded upon the basis of prudence and common sense. Unrestricted immigration is, for the United States, at least, an untenable proposition. Rigidly restricted immigration does not command the approval of public opinion. What we need is an intelligent, workable method of selection which will choose from those seeking admission to the United States the individuals who are best fitted for our citizenship. It is my

opinion that this function can best be administered by a non-political, impartial commission, which should make the immigration problem its constant study and from time to time propose such changes in methods governing the admission of immigrants as are deemed advisable.

The immigration problem has been somewhat complicated by the attitude of those who contend that immigrant labor is competitive with native-born labor and forces down wages. This attitude is unjustifiable because it puts the emphasis on money wages, and not

on the buying power of wages. Labor shortages, it is true, serve to inflate wage rates, but at the same time their effect is to inflate commodity prices, so that the wage earner, although paid on a higher scale, may actually be paid less, in the purchasing power of his wages, than before.

I am fully agreed with those who believe that the restrictions placed upon immigration should be upon quality rather than numbers. We should demand of those who come to our shores seeking citizenship that they be healthy—not only physically,

but morally and politically healthy as well. Political malcontents should be denied admission. However, evil—which, after all, is simply a lack of understanding of right principles—uses whatever instrument it finds

ready at hand. We cannot ascribe all of the undesirable outcroppings of the last few years to foreign influence; much of it has been native-born.

If we let our immigration program follow the lines of common sense—

if we neither starve nor glut ourselves—if we choose wisely those whom we admit—we shall avoid the mistakes of the past and at the same time avoid letting the pendulum swing too far in the opposite direction.

Literacy Test Bars Many Farmers

Written especially for AMERICAN INDUSTRIES

By E. E. LOOMIS

President, Lehigh Valley Railroad Company

THE present immigration law, so far as I can discover, is not working out. Of course, there are certain classes with particular interests to serve and some with a restricted vision who find the measure satisfactory but these people generally would be willing to see immigration cut off entirely.

While it would seem that the present law does not satisfy the vast majority of the people of the United States, the answer, as I see it, is to be found in a careful study of the problem by qualified experts. Fortunately, I know an excellent start has been made in this direction and I am hopeful that it will lead to a Congressional inquiry directed particularly to the industrial needs of the country. As a result of this investigation, if it is made, I feel certain a law can be enacted which will tend to correct the present unhappy situation.

As matters stand now the literacy test is keeping out thousands of sturdy men of the type who have entered this country in other years and become part of the bone and sinew of the nation. The mere fact that they are unable to read and write when they come in by no means interferes with their progress toward good citizenship and this rule, in my judgment, is a most unfair one. I am aware that it is claimed that it serves to turn back but a small number from our shores, but it undoubtedly has a serious effect in deterring many desirable people from attempting to emigrate. It is well known and those it would bar do not make the effort. Likewise it gives us immigrants largely from the cities when we would welcome more from the agricultural regions even though they have not had the educational advantages of the others.

The quota rule, permitting only a

small percentage of immigrants from each country, also works unfairly. The Northern and Western European countries have not been furnishing their quotas from whence a most desirable class of immigrants ordinarily come. Immediate steps should be taken to correct this situation through our State Department. In the case of Italy and some other of the Southern European countries, the immigration is more than offset by the emigration back to the older countries and elsewhere. The result is that we are showing hardly any net increase annually where, even under the existing law, we should have approximately 350,000 gain every year.

The remedy for all these problems is not going to be found immediately. It is not one to be solved over night. There is a solution, however, but it must come from a careful and painstaking study of the whole situation.

Immigration One Of Outstanding Problems

Written especially for AMERICAN INDUSTRIES

By E. B. LEIGH

President, Chicago Railway Equipment Company

IT cannot be denied that the immigration question is one of our outstanding problems of to-day. The existing shortage of labor, especially of common labor, is chiefly due to the restrictions imposed by post-war legislation, the results of which are broadly known.

Industry has thus been embarrassed, both as to adequate labor supply and in the abnormally high wage levels to which the restriction of immigration

has been a contributor.

There are many who question the wisdom of opening our gates to foreigners of the artisan class, fearing that many of them might bring with them radical, socialistic, and other erratic conceptions of government, with their demoralizing tendencies, also, because of the highly contagious and dangerous diseases now prevailing in some parts of Europe, especially in Russia. These appear to be

the two principal deterrents.

It would seem, however, that if surrounded with rigid safeguards as to mental, moral, and physical fitness, determined abroad, at the port of proposed embarkation, well in advance of such possible embarkation, and by our own Government agents; and taking only the pick of the many seeking this privilege—then increased immigration could, and doubtless would, be a substantial advantage to this country.

Believes Law Should Be Made More Drastic

Written especially for AMERICAN INDUSTRIES

By WILLIAM J. FAUX

President, Logan Coal Company

MY preference is that the immigration law should be more drastic than at present. I do not

believe it necessary for the United States to make all the goods in the world, and we are certainly producing our share when we produce two-thirds.

We have got enough of the immigrants of Southern Europe to last for the next fifty years, if we are to maintain our Americanism.

Some Suggestions On Immigration

Written especially for AMERICAN INDUSTRIES

By HENRY ABBOTT
President, Calculagraph Company

DURING the Civil War, in the early sixties, Mr. Isaac J. Allen was editor of the *Ohio State Journal* which was then an ardent supporter of the Union cause. After the end of the war, President Lincoln appointed Mr. Allen to the post of United States Minister at Hong-Kong, China. This appointment was made during the last month of President Lincoln's life. Indeed, his assassination occurred while Mr. Allen was on his way to Panama, en-route to San Francisco, where he was to take ship to China.

Mr. Allen represented the United States at Hong-Kong eight years and during that period he kept a diary, which was rather voluminous and recorded many of his official acts as well as his observations on the history, manners and customs of the Chinese; also events that occurred during his stay in, and travels through, that country.

Mr. Allen died at Morristown, N. J., fifteen years ago, having attained the age of ninety-four years. During the last twelve years of his life I saw him at frequent intervals, and he told me many things of interest regarding China. I also read his diary which covered the period of his residence in that country.

I recall that, not the least interesting of his records, was the story of diplomacy and intrigue carried on in Hong-Kong between representatives of several European countries, which resulted in a "Gentleman's Agreement" and the preparation of a map showing a partition of China into "Spheres of Influence." This early record of plans throws an illumination upon events that have become history in more recent years.

While Mr. Allen was in China the Union Pacific Railroad was under construction. This being the first railway designed to connect the states east of the Missouri River with the Pacific Coast, the project was encouraged and financially assisted by the United States Government.

It appears that at this period there was great difficulty in getting sufficient labor of the kind that can work with a pick and shovel, to properly prosecute the operation of railroad building. Native Americans were then as now, reluctant to engage in any labor of the "strenuous" variety.

"White collar jobs" were then, as now, preferred to any which exercised the muscles of the back.

And so, because of its interest in



Henry Abbott

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hastening the completion of the work which was to tie together the eastern and western sections of the country the United States Government through its State Department at Washington, instructed Mr. Allen at Hong-Kong, to negotiate with Chinese officials for the employment of a lot of Chinese who would be willing to dig and shovel dirt, and thus hasten the completion of the first "Trans-Continental Railroad."

Mr. Allen's diary recites the great difficulties of this negotiation which consumed many months, and records the great reluctance with which the Chinese officials finally consented to the terms of employment and permitted their subjects to emigrate, for a limited period, to the United States. I recall that among the articles of agreement solemnly entered into by the two governments, were provisions that transportation to America should be at the cost of the United States government, that the men should be protected while here and on completion of the work of railroad building, the Chinese should be returned to their native land. Also, that if any of them died while in America, the bodies of the dead should be returned so that their bones might repose in the sacred soil of China along with those of their ancestors.

Under the terms of this contract

some thousands of Chinese came to the United States and the first span of rails was laid to the Pacific Coast. But so far history does not record, that any of them went back to China at the cost of the United States Government. Very few of them returned at anyone's cost. Also more of them came and engaged in other occupations more profitable than any to be found in their own country. They continued to come until the "Chinese Question" was created and kept the Pacific States politicians busy for many years until the voice of Dennis Kearny shouting from a stump in the "Sand Lots" of San Francisco, rang out with that famous slogan "*The Chinese Must Go*," and (before the days of radio messages), was heard in Washington in the halls of Congress; resulting in the "Chinese Exclusion Act."

The coming of Chinese fifty-five years ago served a useful purpose, but the United States Government failed to carry out all of its part of the contract. It did not send them back as agreed. The Chinese, presumably, did not want to go back. Moreover the gate was left open and others came, swarms of them, until the western people became alarmed and cried out for relief.

If any argument is required to demonstrate the wisdom of "restricting immigration," this bit of American History should convince the most sceptical.

Let us go a step farther and say that this country needs selective immigration. The time has passed when it can be said that the United States is "an asylum for the oppressed of all nations." Why should we throw open the gate at Ellis Island to millions of people for no other reason than that they are enduring persecution in their own country? Why should we welcome the Russian because he is starving on his peculiar Bolshevistic diet in Russia? Why should we admit any more of the type that lives in a crowded, unsanitary tenement and trundles a peddler's push cart through the streets of our cities? Why should we admit any more people who purpose going into any industry already overcrowded, to foment trouble therein, and promote strikes, to tie up those industries on such silly and uneconomic demands as "a six-hour day and five days a week?"

Thoughtful people quite generally agree that our present immigration laws are unscientific, harmful to many of our own citizens and frequently unjust to immigrants who arrive at our gates with inaccurate information regarding our immigration laws and of conditions in industries in which they may hope to get employment.

At the risk of stirring up a horrified protest from our friends of the labor unions, I am going to propose as a remedy for some of the present unsatisfactory conditions, the repeal of the present laws forbidding the importation of contract labor and the enactment of new legislation that, under proper supervision and restrictions will permit immigration of men and their families, who have, before leaving their homes abroad, entered into contracts for employment in particular industries in this country.

Please note that in the case above cited, the Chinese came to this country under contract of employment. Contract with the United States Government. Such an importation of labor by any person, firm or corporation to-day, I understand, would be in violation of law and subject to heavy penalties. But, if we are to have selected immigrants, where can they better be selected, than in their own countries? And if they are coming at all, why is it not better for them to be assured employment before crossing the ocean, rather than to risk finding employment impossible after arrival?

Such a law as suggested, might very properly require the applicant for permission to import labor, to prove to the satisfaction of the Secretary of Labor, that there is in this country a shortage of the particular kind of labor required in his industry. Also any immigrant, seeking entry, whether under contract or not, might be barred from entry if the field of labor which he proposes to enter is already oversupplied.

The method of selection here suggested presupposes that all immi-

grants thus brought in, shall in all other respects be desirable for American citizens. I would also add a provision, that if, within a reasonable period of years an immigrant has not qualified and has not made application for citizenship, he then should be sent back to the country from which he came.

My theory is, that immigrants should be *selected* for the best interests of *this country*. Also if, through misrepresentation or inadvertence, immigrants are admitted, who later become a menace, through agitation or activities calculated to make trouble in our industries or to break down established American institutions, they should, promptly, and without complicated legal process, be returned to the country from which they were received.

Operating an immigration bureau as an eleemosynary institution is not a proper function of government. That is a field which may be left in the hands of charitable organizations. When we have a real need for immigrants let us seek them where they live, and let us select those who will ultimately make good American citizens, as well as industrial producers.

There are other features of the immigration problem which I have not touched upon, but those have been more fully discussed by others.

In order to make clear what I have in mind when I speak of *selected contract immigrants*, let me explain how it might operate in a single industry. It is the general belief, that at the present time, there is a shortage of farm labor in this country. That is, there are too few men willing to accept employment on farms at wages farmers can afford to pay. As a result, smaller crops are planted, cultivated and harvested. Prices of all farm products, including foodstuffs are therefore higher than normal; also the farmer makes less money. If this condition continues long enough, there may not be enough food produced to meet the demand and

prices will go still higher through speculation.

Now suppose the Farmers' Associations through their officers or representatives are able to submit to the Secretary of Labor proof that will convince him that the alleged shortage of labor is real and not merely imaginary. The Secretary will then under the proposed law, issue a permit to import under contract, a certain definite number of farm laborers, to be distributed as per schedule through those sections of the country where such labor is needed. Having secured this permit the Farm Associations send their agents abroad into those countries from which the best farm labor comes, and by solicitation and offers of assured employment at satisfactory wages, the men are brought to the port of embarkation and there submit to an examination as to their fitness to be American immigrants. Having there met the conditions, the contract with their employers may be concluded. Arriving in this country, these men may immediately go to work in the places assigned to them.

This plan will prevent one of the worst abuses of our present system of immigration, viz—the herding together of those who speak the same foreign language, in crowded tenements of our sea coast cities where they remain frequently for months while seeking employment.

If the coming of such contract immigrant labor results in reducing the cost of foodstuffs, clothing, and other farm products, why should the labor unionist worry? He must buy food, and clothes, made of wool and cotton. Also some of him smokes and chews tobacco, which is another farm product. And since we all must buy some of these things, and we all are anxious to have the high cost of living reduced, why is not the selection and importation under contract of such labor as may be needed, good for the whole country? And why should anyone object to such change in our immigration laws?

Country Needs Women For Domestic Service

Written especially for AMERICAN INDUSTRIES

By CHARLES A. MUNROE

Vice-President, Peoples' Gas Light and Coke Company

WHILE the Government should exercise care for the purpose of excluding undesirable immigrants landing in this country, yet every facility should be afforded people who are in good health, have not committed a crime, and who do not come

from families convicted of crime, and who are willing to work and add to the productive wealth of this country.

Especial efforts should be made to encourage women coming to this country, who will fill the void of domestic

servants caused largely by so many of our American-born girls going to factories and into business.

An adequate supply of household servants is necessary for the comfort and convenience of our people.

The Slowing Down Of Immigration

Written especially for AMERICAN INDUSTRIES

By **HENRY HERBERMANN**

President, Export Steamship Corporation

AMERICA, at the beginning of the eighteenth century, had a population of 250,000 people—the root of our national stock—and about this time these people began, in increasing numbers, to spread westward over an immense area of cheap and fertile land. In the wake of this movement followed an agricultural development that, in course of time, attracted from other lands millions of stalwart men and true women seeking to better their condition. Under the lead of its "native" stock, this vast supply of man-power constantly pouring into the country, enabled America to push along its economic activities at a rapid pace, and to express it graphically, it early became a hustling nation with speed production as its industrial shibboleth.

An analysis of its commercial triumphs, in the greatness of its undertakings and the wonders of its achievements, whether it be in the tilling of the soil, transportation or manufacture, leaves no doubt of the wisdom of the founders of the nation in establishing an immigration policy that resulted in bringing to our shores so many millions of healthy decent folk, thus making possible the development of the country's great resources in the large way it is being done and to carry America forward to its destiny—the leading nation of the world.

The magnitude of America's basic industries and the prosperity of its industrial and commercial centers are unsurpassed in the world to-day, and these results are simply the benefits of its early constructive national immigration policy. The pioneers of the nation had the foresight to realize that America could not produce the man-power for its immense development and wisely drew generously upon the Old World for its raw material—willing workers—and no one can measure what these people have added to our wealth in terms of production and thrift, nor what they have gained in happiness and opportunity. And at the peak of the immigration flow into this country, a few years ago, we were getting a million or more a year to add to our wealth; for what makes America rich if it is not not population of industrious men and women.

Then came the war and the manifold changes it wrought. The dis-

organization of European civilization resulting from the waste and destruction that the war entailed; the racial animosities and its attendant antago-



Henry Herbermann

nism of fundamentals; the rise of class conflict and proletarian rule. These happenings abroad and other problems of reconstruction and the maintenance of peace cast their shadows around the world, and America has had its cross to bear along with the rest of humanity. If we restrict ourselves to considering the economic effects of this great world disaster, so far as it relates to this country, perhaps the slowing down of immigration is the most inimical to its welfare and future prosperity that has thus far developed. A predicament very largely of our own making.

In the deep shadows of the war period when many a good American citizen was looking askance at his neighbor, an equally good American citizen; when Bolshevism, Communism and Radical Socialism were making worldwide bids for the job of governing the organism of society, a feeling spread over the country that the world had undergone a change and that America must protect itself. For once capital and labor were agreed—the melting pot had ceased to function, that from now on all men are created unequal and that the permanence and progress of the nation demanded the selection of the species and the leadership of the fit; that the uneducated were uneducatable, there-

fore the time had come for America to close its doors and shut the world outside.

Finally this feeling crystalized in a clamor for legislation, which under our governmental system of expressing the will of the people, took the form of a Congressional act to limit the immigration of aliens into the United States. This statute, as approved May 19, 1921, and amended May 11, 1922, provides that the number of aliens of any nationality who may be admitted under the immigration laws to the United States in a fiscal year shall be limited to three per centum of the number of foreign-born persons of such nationality resident in the United States as determined by the United States Census of 1910, the provision not applying to aliens from countries immigration from which is regulated in accordance with treaties or agreements relating solely to immigration, or aliens from the so-called Asiatic barred zone. The statute is in effect until June 30, 1924, and is properly known as the "Percentage Act" since the restriction of immigration is simply a matter of percentage.

This statute has now been in effect some eighteen months and the United States Bureau of Immigration has issued a report of the immigration and emigration statistics for the fiscal year ended June 30, 1922, which covers a year's operation under the new law. The figures of this report are interesting as bearing on the effects of this emergency legislation. In the first place, under the percentage quotas the total number of aliens admissible during the year was 356,985; but only 243,953 or 68.3 per cent were admitted. The number admissible from Northern and Western Europe was 198,082, but the number admitted was 91,862 or 46.4 per cent. The number admissible from Southern and Eastern Europe was 158,200, but the number admitted was 150,774 or 95.3 per cent. The number admissible from "other sources"—a group of small areas—was 713, but the number admitted was 1,317 or 184.7 per cent, the excess being largely due to the admittance of some Assyrian refugees. The net increase of 87,121 in our total alien population was made up entirely of females. The total increase in females was 98,808, while the total

decrease in males was 11,687. Compiled by sex the inward and outward flow of aliens for the year was as follows:

ADMITTED		
	Male	Female
Immigrant	149,741	159,815
Non-immigrant ..	79,036	43,913
Total	228,777	203,728
DEPARTED		
	Male	Female
Immigrant	143,223	55,489
Non-immigrant ..	97,241	49,431
Total	240,464	104,920
INCREASE AND DECREASE		
	Male	Female
Immigrant	6,518	104,326
Non-immigrant ..	18,205	5,518
Total	11,687	98,808

Note: The term immigrant used in this table relates to permanent arrivals and departures and that of non-immigrant to temporary arrivals and departures.

It will be observed from the above table that the total increase in our permanent alien male population was 6,518, while our permanent female population increased by 104,326. The decrease in our temporary alien population was 18,205 males and 5,518 females. The total decrease in all alien males was 11,687 and the total increase in all alien females was 98,808.

An analysis of the figures by races indicates that there was an increase among twenty of the racial groups listed, over eighty per cent of whom were British, French, German, Scandinavian and Jewish, nearly all of which do not normally affect our common labor market. With the exception of Mexicans, nine races that normally supply the bulk of our unskilled labor, including the Italian, Greek, Lithuanian, Polish, Portuguese, Roumanian and Jugo-Slav, show a total decrease of 71,568. In occupations, there was a net loss in our immigrant alien population of 67,332 laborers and 1,030 skilled miners. The chief gains were 39,319 servants, 33,630 skilled workers, 7,839 farm laborers and 7,642 "professionals." Of the total increase in our immigrant alien population, Europe contributed only 50,088 or less than half, while

British North America contributed 42,350 and Mexico 13,266. Only twelve states received more than 5,000 immigrant aliens. The only state showing a net decrease was West Virginia, although the exodus was heavy from Pennsylvania, Illinois, Massachusetts, New York and Connecticut.

The above information was drawn from the report for the year ending June 30, 1922, since which time six months have elapsed on the second year's operation of immigration restriction. No figures are yet available covering this period but since there has been no improvement in the labor market, in the unskilled section, where the pinch lately has been most acute, it is fair to assume that the results of the second year under the quota law will not differ materially from that of the first year, all of which is indicative that the law is not accomplishing the results that were hoped for at the time of its enactment. The original idea was to establish a selective system of immigration that would bar all undesirables yet would not only induce industrious, diligent immigrants to come here but would guide them toward decent citizenship. This the law has thus far failed to accomplish; it has simply restricted immigration, and a careful study of the government statistics reveals that it has even done more, so far as men are concerned, as the net immigration of men has actually stopped.

Meanwhile complaints of labor shortage are multiplying in various parts of the country and in many lines of trade. For instance in the building trades it is estimated that approximately 35,000 new skilled workers and 12,000 additional laborers are annually required merely to replace those lost by death or other causes. Further, it is stated that the country requires not less than 214,000 men each year to replace those lost in similar ways in its various industries.

Attention is also called to the fact that the United States population increase rate is about fourteen per thousand, hence the increasing consumer demand requires an addition of fourteen per thousand manual laborers annually, which data when applied to the eleven million men in our industries to-day means an addition of 154,000 to be added to the

above replacement figures, or a total of 368,000 new workers annually. These are wanted simply to meet normal waste and do not provide for the demands of new enterprises or the expansion of going concerns. There are not enough native-born workers to supply the replacements, let alone the natural increases in trade. This finds confirmation in practically every branch of American industry to-day, and since, as the statistics show, under the present immigration restriction, we are losing rather than gaining in numbers of alien workers, the present labor shortage is bound to become more serious.

The steel mills of the Middle West, the cotton mills of New England, the clothing manufacturers of New York, the shipping and transportation interests along the Atlantic seaboard, the agricultural sections of the South and West are all suffering from labor shortage.

There is not the slightest doubt that the lack of abundant labor supply is one of the major impediments now existing to full business recovery in this country.

At the present time it is estimated that there are 160,000 Slovaks; 200,000 Austrians, 100,000 Polish, 400,000 Italians idle at home because of economic conditions. Much of this is needed here to supply the labor to man adequately the national industrial machine, which on account of the present scarcity of man power threatens to slow down, curtailing production of all kinds, and seriously interfering with the country's prosperity; and the pity of it all is that a very large percentage of these idle people, the material we need, is practically at our doors begging for admittance but are barred because of our present absurd immigration restriction.

Relief from this intolerable condition can only come from the active and prompt coöperation of the farmer, the planter and the industrial leaders, all of whom are vitally concerned, in agreeing upon a permanent and forward looking policy in dealing with this immigration question and placing the matter before Congress in such a way as to forestall the political opportunist and insure the enactment of remedial measures along broad lines for the public good.

Must Always Depend On Immigrants For Labor

Written especially for AMERICAN INDUSTRIES

By CLARENCE HODSON
President, Beneficial Loan Society

WE have always depended and must always continue to depend upon our immigration for labor. But we should insist that immigrants to

this country have inherent qualities which make them material for good citizens.

The restriction of immigration as it now operates was necessary to meet an emergency. It is not a scientific law and it results in preventing the

entrance of desirable immigrants while it permits the entrance of undesirables.

I believe the law should be amended so that restriction would be based, not so that restriction would be based, not fitness of immigrants for the duties of citizenship.

Extend Means Of Americanization

Written especially for AMERICAN INDUSTRIES

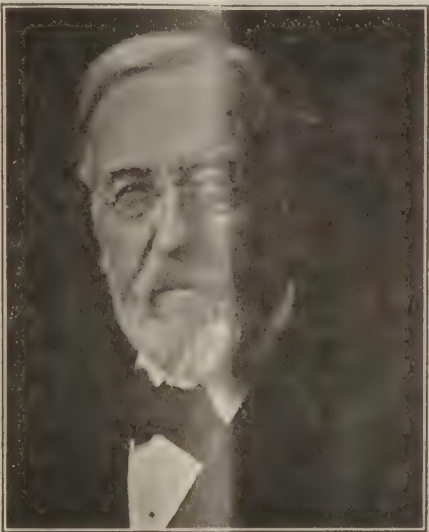
By A. B. FARQUHAR
President, A. B. Farquhar Company, Ltd.

THE economic phase of the immigration problem—the fact that both agriculture and industry are suffering from a dearth of common labor—has raised a demand for a modification of the existing rather hastily devised law, enacted because of the fear that we would be invaded after the war by a horde of undesirable aliens. This restrictive measure, in determining the quota to be admitted, takes practically no account of the number who return to their native land. Emigration of aliens during the last half dozen years, due to the war and other causes, has been so large that the net gain in immigration has been much less than the statistics of arrivals would seem to indicate. The result is that with the coming of greater industrial activity we find the supply of rough labor essential in the building trades, agriculture, road building, etc., to be wholly inadequate, hence the demand for revision of the three per cent immigration law.

It probably was wise to pass some sort of a restrictive measure, but I believe the time has come when the whole question of immigration should have more profound study and broader and more constructive action. An immigration law designed for the purpose of supplying the demand for common labor, however important it may be to consider that aspect of the situation, does not strike at the root of the matter.

We have heretofore largely dealt with the problem—or at least the average citizen has so regarded it—as a mere matter of statistics, more or less overlooking the bearing it has upon the complexion of our citizenship. But it is that side of the question that we shall have to take more

and more into account. Many of these people—perhaps the majority—come here in the hope of making a permanent home, securing to them-



A. B. Farquhar

selves and their families the benefits that America has to offer, and of giving something in return.

But what do they find? Neglect, indifference, and a speedy disillusionment. The result is segregation, a retention of all the old habits, languages and prejudices. We must, for the sake of the nation and for the sake of these new potential citizens, extend and increase the means of Americanizing the foreigner, making available to him the real opportunities he may have if someone will but take a sympathetic interest in him.

It was comparatively easy for our

forefathers who emigrated to these shores to find permanent places for themselves; it is not so easy now, and it is our duty as a nation to render these newcomers such service as we can in interpreting to them what America means, and how they can best make use of their new opportunities. Immigration torn-over, no less than labor turn-over, is costly and inefficient.

It is therefore the writer's belief that any new legislation on the subject should be considered quite as much on its social as on its economic side, and that it should not end with the admission of aliens at our gates.

There should be as careful selection as practicable, at the point of 'embarkation rather than on arrival, with the stress upon mental and physical fitness rather than upon mere ability to read and write, and there should be some sort of supervision by state or nation over their distribution upon arrival. To admit the stranger and then abandon him to his own devices is often in its results cruel and dangerous. We have the provincial notion that those who differ from us in language, heredity and environment are of an inferior clay, while in fact they may merely need the opportunity to develop into substantial and desirable citizens. Would it not be profitable to examine ourselves critically in our relation to these newcomers? We need more of the spirit that has been manifested in Elizabeth, N. J., where a few devoted men and women have recognized the kinship of human nature, the loneliness of the alien in a strange land, and have shown the way to make new Americans good Americans by the simple means of being neighborly.

Country Must Aid Industry's Expansion

Written especially for AMERICAN INDUSTRIES

By E. KENT HUBBARD
President, Manufacturers' Association of Connecticut

WHEN artificial barriers are set up industrial progress is retarded. Such is the effect of the Dillingham three per cent Immigration Law. Reports that are being received at the office of the Manufacturers' As-

sociation of Connecticut indicate that the shortage of common labor is certain to give a great deal of concern. Shortages of individual plants range from 5 to 500 men of the unskilled class. There is little doubt that these

figures will increase, as the predicted boom follows complete adjustment after strikes.

The Association believes that the present law should be so amended as to meet the conditions which leave the

United States without a sufficient supply of the right kind of immigrants. The true facts of the case can be quickly grasped when the situation is analyzed. In 1920 the United States enjoyed a net increase in population of 555,510 by immigration. In 1921, after the passage of the Dillingham Law, this increase was reduced to 110,844. Even more distressing is the fact that of this number 104,326 were women, and only 6,518 were men. Further, 53,524 of the total net increase of 110,844 were Hebrews, who rarely enter industrial establishments, except as needle workers, etc. The majority of the remainder were Germans, Irishmen and Scotchmen, who are generally recruited into skilled work. Connecticut is not the first state to feel the pinch of the law. Other states have also felt it, and as time goes on, unless something is done, the shortage is certain to reach alarming proportions, regardless of the fact that the *Saturday Evening Post* in two recent issues has berated the manufacturers for their so-called selfishness. It is not selfishness that induces an employer of labor to secure an adequate force of skilled and semi-skilled workers. It is the economic duty of

all employers to produce the maximum amount of which his physical equipment is capable, if he is to serve the public.

This Association is opposed to unrestricted immigration. It contends that such an arbitrary method of percentage selection as the Dillingham law sets up is absolutely unscientific. It is obvious that this three per cent mathematical formula, which was arbitrarily applied and has since been extended to June, 1924, has produced most unsatisfactory results. For every single unskilled workman who enters the country, two leave. Some proponents of the law contend that it is designed to create prosperity through the raising of wages. No one who has given any thought to economics whatsoever will contend that high wages mean prosperity. The United States cannot be made a dumping ground for Europe's surplus population.

The American people should be opposed to any indiscriminatory letting down of the immigration bars against undesirables and against all those whom we cannot assimilate. However, a sufficient supply of immigrants of the right type is absolutely necessary if

our domestic labor situation is to be made sufficiently elastic to promote the economic welfare of our country. Labor is a shifting factor. It is constantly changing as regards mass. Thousands of skilled, semi-skilled and unskilled pass out of the labor army through death and advanced age. Others pass out of the unskilled class into the semi-skilled and skilled, and still others return to their native land. Add to this the ever-increasing industrial expansion of this country, and it is not difficult to see that we are dependent in a great measure upon immigration to supply our industries with an adequate supply of unskilled labor, particularly.

In brief, the Manufacturers' Association believes in a restricted immigration policy. It believes that any policy should take into consideration all the factors of labor supply, and that any legislation should be so designed as to allow the admittance of a sufficient number of desirable aliens to meet agricultural, industrial and commercial needs. It further believes that the present Dillingham three per cent Law does not meet these requirements, in that its base is fundamentally unsound.

Need More Of The Domestic Class

Written especially for AMERICAN INDUSTRIES

By **AUGUSTINE DAVIS**

President, Davis Automatic Equipment Corporation

NO patriotic unselfish citizen can deny the imperative need of more liberal immigration laws. The urgent requirements of industry and agriculture are most graphically portrayed, but the equally important need of domestics is sadly overlooked.

With hundreds of thousands of wretched starving widows and orphaned young women in the "Near East" and other poverty stricken districts of the Old World, who would grasp with avidity the opportunity for service in American homes, the mothers in our own country, generally, find it next to impossible to obtain the aid necessary to care for their families properly.

The extreme difficulty in securing such assistance results in imperfect home sanitation, neglect of children, ill health and despondency in overworked mothers, unsatisfactory food preparation, lessens desire for home ownership, discourages marriage, increases unhealthy hotel and boarding-house life, tends to the disruption of families, leads to divorce and is no small factor in "race suicide," all of which has a most detrimental effect on

the morals and progress of our people. Paucity of house-workers creates in



Augustine Davis

our domestics an independence and indifference that results in extreme wages and unsatisfactory service.

The most selfish and powerful

influence against more liberal immigration laws, is that of the American Federation of Labor. The success of its policy in restricting production and extorting unjustified compensation, depends on a depleted labor supply. It is willing to sacrifice the welfare of society for selfish gains, but the record of its members for cruelty, destruction of property and the murder of its fellow workingmen, should deprive it of all sympathy in its efforts to prevent more liberal immigration laws. Many of the mothers of thrifty families among its members must suffer from the lack of domestic assistance.

It is astonishing that women's clubs and other women's organizations, especially women's political organizations, do not make a perceptible effort in this direction.

If the charitable organizations were permitted by immigration laws to solicit contributions to bring ship loads of the starving women from the poverty stricken areas of the Eastern World to this country and place them in domestic service in comfortable

homes instead of the inadequate expensive, never-ending policy of sending food and other supplies for costly distribution, the funds available would be inexhaustible.

The women of this country possess almost, if not quite half of the votes and if they will not exercise their privilege and influence to obtain domestic relief for their own sex and for the encouragement and happiness of family life, it must be because they do not understand the immigration situation, or realize their power to improve a serious condition.

The carefully studied and long considered plan for control of immigration as presented to Congress by the National Association of Manufacturers obviates the admission of undesirables, the opposition to which is the chief reliance of the opponents of more liberal immigration laws and leaves no pretext for the inequitable, inexcusable exclusion that now prevails.

The ministers of the Gospel whose sympathies are rightly with the less prosperous classes and whose congregations are composed most largely of

good mothers, should familiarize themselves with the proposals of the National Association of Manufacturers and lend their energies to the plan which would preserve life and relieve unendurable suffering in foreign countries and at the same time afford inestimable relief to their most faithful supporters.

It would seem that even the very statue of "Liberty Enlightening the World," must blush with shame because of the rigid exclusion of the worthy "oppressed" from our vaunted "Land of Liberty."

The Corner In The Common Labor Market

Written especially for AMERICAN INDUSTRIES

By JULES S. BACHE

President, J. S. Bache & Co.

ONE of the serious obstacles confronting the economic progress of the country is the shortage of unskilled labor. This prevails in manufactories, mining regions and lumber camps. It affects the farmer adversely, and will be an open factor in adding to the high cost of living. It will have, and in fact is already having, a directly adverse effect upon labor itself—that is, upon skilled and semi-skilled workers, because there are many industries that must cut down or partly dispense with their skilled workers, as operations cannot go on without a larger supply of common labor.

This country produces practically no common labor. Native Americans, including those born of foreign parents, do not seek what is called "bull work." The copper mine manager writes that in his district no common labor is being produced and has not been for years, especially the labor for underground work. The seasoned laborers desire employment in semi-skilled or skilled occupation. None of them will accept the so-called "bull work." It has been said that every native male in this country expects some day to be President of the United States and scorns the idea of becoming a common laborer as an occupation too low down in the scale for rapid advancement.

The source of common labor in this country heretofore has been immigration. Immigration now is practically at a standstill. In the last fiscal year 309,556 immigrant aliens were admitted into this country, and 198,712 emigrant aliens left the country. We gained thus, during the year, only 110,-

844. This included all classes, but when it came to laborers alone, there entered 32,724, while those going out numbered 100,058. So that we actually lost last year (year ending June 30, 1922), 67,334 laborers. This



Jules S. Bache

kind of a record will not only fail to supply the increasing needs of the country, but will eventually drain the United States of laborers.

Outside of labor leaders who are opposed to increased immigration because it would break the present corner in labor, there are a number of people who honestly believe that heavy immigration tends to lessen the birth rate of American stock. The population of the United States from 1830 to 1920 increased from around

12,000,000 to 105,000,000, and of this increase it is estimated that 30,000,000 was due to net immigration from foreign countries. Some writers maintain that during this period the rate of increase of native Americans fell off materially, and argue that if the flow of foreigners into the country had been cut off at the time of the Revolution, the natural growth of population would have been maintained and would have given a 1920 population substantially equal to the present.

A report of the Commonwealth Club of California, on this subject, has the following: "The reason that the rate of increase in the native stock was not maintained during the period of large scale immigration was said to be the lessening of opportunity due to competition of foreign labor and enterprise, which made it less desirable to native families to be as large as formerly. As the country was filled, the number of large families diminished and the economic basis for them largely disappeared. The immigrant in this way practically displaced an equal number of Americans of the older stock, according to the line of reasoning developed."

The report maintains that this law of population leading to a decline in the American birth rate is in operation to-day and will govern the century to come, just as they claim it has governed the century that has gone, and that the question for the American people to decide is whether the land shall be populated by the descendants of the people now here or shall pass in large part to those who shall come

from other lands. This is a theory which may be interesting, but it will hardly do to test it out in the present condition of the world.

Nevertheless, the character of added population should be given the most serious attention. But the solution of the problem does not lie in restricting immigration by number, as the present law does. Under this method a large proportion of the non-productive class and a very small minority of real workers are admitted.

The true plan, in my opinion, is not to throw the door open to all foreigners, but to establish the most thorough tests as to mental, moral and political requirements on the other side of the water before the immigrant is allowed to have his passport. His record should there be stringently investigated and supervision continued on this side.

The politicians at Washington have made a mad rush to enlarge credit for the farmer, but they disregard entirely his needs in regard to labor, which are really much more imperative and which, if remedied, would be productive of far greater benefit to him than even the most conservative or the most exaggeratedly uneconomic farmers' credit bills which are being

pushed to the surface in Congress.

The political friendship for the farmer at Washington is so overwhelming that it has blinded the farmer's supposed friends to the fact that their opposition to an amendment of the immigration laws is a direct blow at his vital interests; or perhaps (and probably) they are afraid of the political labor opposition, and, pretending not to see the truth, hide behind an overdone enthusiasm for farm credits.

A special committee of the National Association of Manufacturers, appointed two years ago to take up this situation, has recently made a report in which it affirms that the prosperity of the nation is menaced by the present emergency of depleted labor caused by the restrictions of the three per cent immigration laws. This committee was composed of industrial executives from all parts of the country, and their recommendations may be relied upon as the best business judgment as to what should be done. The demand, in their report, is for immediate action through amendments in the existing law, permitting selected laborers to come in; and eventually an immigration law barring all undesirables;

seeking to induce industrious, diligent immigrants to come here; and, when here, to guide them towards decent citizenship.

There is to be no opening wide of the gates to an undesirable horde of morons or defectives. The excellent mental, moral, and political tests now in the law are to remain, but final and expert examinations are to be made before passports are viséd or the alien allowed to embark. The foolish literacy test in the laws of 1917 is to be abolished as far as admission into the United States is concerned, but enforced when it comes to naturalization.

Rough labor is at the foundation of many basic industries, and without a full supply many skilled workmen cannot be utilized. There was, as we have shown, a net decrease through emigration the last year, of over 60,000 laborers. Nearly three-quarters of those immigrants admitted had no occupation (including women and children). With the three per cent quota already full (chiefly non-industrial immigrants), the law acts as a continuous bar against the class of workers indispensable to American industry.

Believes We Should Abolish Literacy Test

Written especially for AMERICAN INDUSTRIES

By **STEPHEN C. MASON**

Secretary, The McConway and Torley Company

I BELIEVE the present percentage basis of admission should be abolished and that we should welcome every person of good fame that really means to incorporate himself into our society and is qualified to be and intends to become a good American citizen. If the percentage basis is continued, however, its application should be on a net percentage basis after taking into consideration the amount of emigration from this country to any such foreign country as we are receiving immigration from.

So far as practicable fitness for admission of an immigrant should be determined at the port of embarkation where all necessary information as to his character, trade, physical and economic condition can be ascertained best in coöperation with the country from which he comes through its accessible records. The test should determine the physical, moral and political qualifications and assure the rejection of the diseased, the criminal, the non-productive and the enemies of social order or those who would



Stephen C. Mason

change our form of government by force.

The literacy test should be discontinued as it does not disclose the fit-

ness or desirability of an applicant to become an American citizen and would admit many of the undesirable while at the same time preventing the entrance of those who would make good and desirable citizens.

A shortage of common labor is becoming acute in many industrial sections and conditions are likely to be worse as we go into the spring and summer. The question is of vital importance to the farmer and agriculturist as well as to industry, for with a shortage of labor, industry will attract men from the farms on account of the high wages and shorter hours, and there will then become a scarcity of farm labor.

The immigration laws should be modified so that immigrants can come in in sufficient numbers to meet the needs of both industry and agriculture.

I am glad to note that the National Association of Manufacturers is taking an active interest in this question and that it will use its influence to secure a modification of the present laws to secure relief from present conditions.

Should Treat Immigrants Kindly

Written especially for AMERICAN INDUSTRIES

By A. H. MULLIKEN

President, Pettibone Mulliken Company

MY views in regard to immigration for immediate relief to the farmers and industries of this country are the same as those of the National Association of Manufacturers.

As to the future, I think that our immigration laws should be carefully revised at the first opportunity when there is the real chance of having legislation passed.

I would suggest among other revisions, that the following changes be made in the immigration laws of the United States:

Immigrants to this country to be carefully examined before leaving their native country by a competent American Commission, which will obviate any examination on this side, and save the immigrants trouble, delay, and the expense of being rejected, which now occurs under the present laws.

Abolish the present literacy test.

Establish some form of distributing immigrants in this country by the Government so that they may find immediate employment for which they are best suited.

Repeal the present contract labor clause and permit contracts for labor for work in the United States to be



A. H. Mulliken

made by any citizen of the United States, or any United States corpora-

tion, subject to the approval of the United States authorities in the country from which the labor immigrates.

The above are a few of the important changes which I think should be made, but, in addition, and which I believe to be of the greatest importance, the immigrants in this country should receive a welcome when they land. They should be carefully housed, fed, and humanely treated until they leave Ellis Island for their destination, and the transportation to carry them to their future home should be decent, friendly, and attractive.

The Superintendent of Ellis Island, in a public address before the Merchants of Chicago, at a banquet given two years ago, stated that the treatment given the immigrants to the United States at Ellis Island, and the treatment that they received on the railroad from New York west, was sufficient to make anarchists of every one of them, and it was only by accident and the grace of God that they did not all become enemies of the United States.

Law Endangers The Skilled Workers

Written especially for AMERICAN INDUSTRIES

By CAPT. WILLIAM P. WHITE

Treasurer and General Manager, Lowell Paper Tube Company

THE United States has attained an unexampled prosperity through the influx of willing workers, who, in turn, have been able to attain a status as to wealth and social position, unhoped for in their former surroundings.

Migration has always been the relief afforded to peoples in overpopulated parts of the world. Freedom of such intercourse has been the most potent influence in preserving the "Peace upon earth" of which the Herald Angels sang. It has remained for the United States of America to close its gates entirely against some of these, and finally to limit by law the admission of others equally deserving as those who have come before, in a manner practically to cut off a supply of unskilled labor which we greatly need.

Unless this policy be changed and the same free ingress and egress be



Capt. William P. White

allowed as has heretofore existed, some who now enjoy the advantage as

skilled workers will lack for employment and must revert to their former status of unskilled labor.

Heretofore free ingress has been enjoyed by those living in contiguous territory; to deny this privilege is a hardship for some and will result in a feeling of animosity that bodes ill for our future. We want no line of sentries along our borders. Freedom of intercourse has been the greatest boon of our own country, and to deny such a privilege to our neighbors is a short-sighted policy greatly to be deplored.

With a proper inspection before permits issue for those seeking entry to our country, and the promise of employment on their arrival induced by a lack of the kind of labor desired or the work available, excessive immigration may be checked at its source, and not as now obtains, at the port of debarkation.

Labor Shortage Hits The Public

Written especially for AMERICAN INDUSTRIES

By **CHARLES R. GOW**

President, Associated Industries of Massachusetts

THOSE people who are actively resisting present attempts to modify our existing immigration regulations, apparently labor under the delusion that they have no interest in or concern with the successful operation of our industrial establishments or the cost of their output.

Nevertheless these same individuals expect the manufacturers of this country to maintain a continuous production of sufficient supplies of necessary commodities to assure to them a satisfactory measure of sustenance and comfort at no greater price than they are accustomed to pay.

These two attitudes are entirely inconsistent one with the other. There must be a sufficient supply of labor available for performing the necessary processes, otherwise it is obvious that production will not be forthcoming with which to meet the demand for goods. In case goods are not produced in such quantities as will supply the wants of the people, then some of those wants must go

unsatisfied. Furthermore, whenever such a shortage in production exists, the cost of the inadequate supply is automatically raised in accordance with the inexorable economic law of supply and demand.

When one hundred million people are in need of a given commodity, and the total quantity produced will satisfy the demands of only one-half that number, there is bound to be competition of the severest nature for that which comes to the market, with the result that people will bid against one another for a share of the insufficient supply while it lasts. Under such circumstances not only does the market price rise but it is inevitable that fifty million people must ultimately be denied any share in the distribution and these will always be of the class which, because of its limited circumstances is unable to meet the high price at which the goods are finally sold.

No honest person who is well informed will dispute the fact that a

very serious shortage of common labor exists to-day in many of our essential industries. "But," say those who oppose any modification of existing immigration restrictions, "let the manufacturer pay increased wages that will attract men from other callings." If we may disregard the effect of such a procedure upon those callings which would suffer a depletion of their labor forces, and likewise assume that skilled workmen can be attracted back to menial occupations by higher wages, there still remains the disturbing fact that no other source is available from which to obtain the money needed for the payment of the increased wages except through the higher price which the consumer must pay for the goods.

The industrial leaders of the country are sounding an honest warning of these impending conditions. The public must choose the particular type of evil growing out of this situation which its preference indicates to be the least objectionable.

Get The Types To Meet The Needs

Written especially for AMERICAN INDUSTRIES

By **S. D. WEIL**

Vice President, The Arco Company

THE immigration question is one of such importance, not only to the United States but to the entire world, that it should be given the serious consideration of every citizen. While it vitally affects the present social and economic situation, it has a much greater bearing on the future. Therefore, the immigration law together with its rules and regulations must be fundamentally right.

Too often when considering the immigration question, we have a tendency to think of our own immediate interests. This is a great mistake, for no law can be a just one when, from its inception, self-interests play an active part. Therefore, the main points to be considered are, firstly, to ascertain the present national make-up of our population; secondly, to secure types of immigrants to meet the economic needs and social betterment of this country. These two points give the basis of operation and from here we step into



S. D. Weil

the method of building up. In order to get the best results our laws must be flexible enough to allow for any unforeseen conditions that might arise.

Our present regulation is on a percentage basis and is definite. While this seemed advisable for a temporary measure, it certainly is inadvisable for a permanent one. Although this regulation has been in operation for but a short time the present industrial situation has been affected by it.

Any definite percentage basis is apt to work a hardship or prove disastrous.

One of the reasons why we find such a great diversity of opinion on the immigration question, is due to the fact that the figures published on this question are not generally understood. Immigration and emigration are so closely allied that it is unwise to consider one without the other and without the other and obtain a net result. For example, for the fiscal year ending June 30, 1922, the male immigration was approximately 6,500 in excess of emigration, while immigration was 309,556.

It is imperative that some immediate relief be given to meet the present situation in order to allow industry to go forward on a proper basis. There is at present a growing shortage of labor and if we have only a normal increase in business, industry will no doubt be hampered in 1923. Practi-

cally all of our present labor has been absorbed. Therefore, we are ready and able to encourage a further influx, but this only to the degree that it can be assimilated.

We must not forget our duty to the immigrant. We have invited him to our country; therefore, he is our guest

and we should treat him accordingly, helping and encouraging him to become a fellow citizen.

It seems to me one step toward a logical solution of this problem would be the placing of the immigration work in the hands of a properly constituted commission.

Would Naturalize Them In Two Years

Written especially for AMERICAN INDUSTRIES

By **GEORGE A. WILSON**

Secretary-Treasurer, U. S. Bobbin & Shuttle Company

REPLYING to your question as to "What Shall We Do About Immigration," I would say revise the present law which has been tried and found wanting, and in its place substitute legislation that will give our country the foreign labor for which it is now in great need. While the present law was given careful consideration by its framers, experience gained by its application has proven that the 3% clause should have been made net, thus taking into account those who for various reasons might return to their homeland. We shall always, without doubt, need "hewers of wood and drawers of water," and

many of those who have come to our shores in the past, through the prosperity of our country have graduated from that class and we must look to immigration for our further supply.

I believe in other ways our immigration laws could be improved. I would make it a condition that any immigrant coming to this country should take out naturalization papers within two years or be deported. Too many of them gain success here and while enjoying all the benefits of this country assume none of the responsibilities of citizenship. This should not be allowed. It is a pity that a certain organization in this country cannot

see that keeping the immigrant out is to slow up its march of progress. It is in keeping with its policy of curtailing production by shorter and shorter working days, in the false belief that doing so will add to our prosperity.

It has been suggested that a selective process by our representatives abroad should be carried out, thus eliminating the undesirable immigrant. This is probably one of the most valuable suggestions that has been offered. Too little attention has been given to this phase of immigration, with the result that criminals of all classes have found a haven on our shores.

Would Register And Direct The Aliens

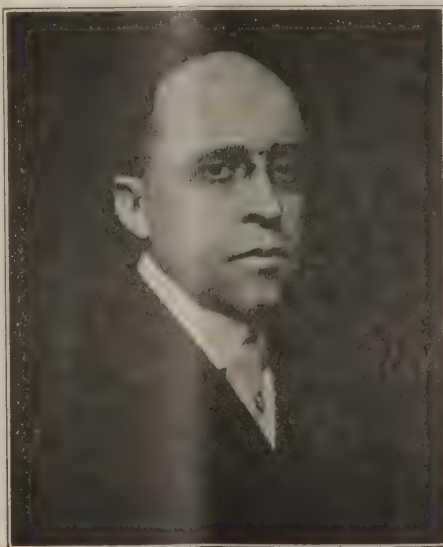
Written especially for AMERICAN INDUSTRIES

By **WALTER RENTON INGALLS**

I THINK that the alleged labor shortage and the effect of immigration curtailment are being misunderstood and over-rated. Although business activity in the United States increased greatly in 1922 in comparison with the abyss of 1921, I do not find from examination of the statistical evidence that the rate of production in the latter part of 1922 was any higher than in 1913. The aggregate production of raw materials was about the same in 1922 as in 1913. Factory employment in the State of New York, which is considered to afford a fairly reliable sample for the whole country, rose in the latter part of 1922 about to the level of the middle of 1914 when this series of figures began. Building construction in 1922, while the greatest on record in terms of dollars, appears from my own studies of this subject to have been less in terms of quantity in 1922 than in 1913.

Although these statistics are rather unsatisfactory, the positive showing of

the production of the principal building materials lends strong confirmation



Walter Renton Ingalls

to them. Railway freight transporta-

tion in terms of ton-miles was somewhat higher in 1922 than in 1913, but research discloses that there has been in recent years the gradual development of conditions that is leading us, or constraining us, to move our freight a greater number of miles, and this is hardly to be considered a favorable economic development. Our railways are doing the increased work with about the same number of men, but this is attributable to improvements on the part of railway management, there being distinct evidence of diminished efficiency on the part of railway workers.

This survey accounts for the largest proportion of our workers. Those who do not fall under these heads are mainly shop-keepers and their staffs, servants, government employes, bankers and merchants and their employes, and professional men.

From 1913 to 1922 our population has increased by about 12½ per cent, and the number of available workers has probably increased in proportion

thereto. Yet they are not accomplishing any more. In this divergence I find the suggestions that we may be diverting too many workers to unproductive service, that workers are enjoying too much the luxury of leisure, and that the workers in occupation are functioning with diminished efficiency. I am not shutting my eyes to the progress that management is making under the strain of circumstances, but I find considerable evidence that improvements in mechanicalization, etc., are in the broad view being offset by decreased labor efficiency.

All of this is offered with no intention of contradicting representations of shortage in labor of some kinds and at some places. That such shortage exists is evinced by the fact that employers have had to increase wages to get the labor they need, which they would not do unless they had to. I find it difficult, however, to attribute

that condition solely to curtailment of immigration by the terms of the Dillingham Law which has been in operation for only little more than a year. During that year the net immigration was higher than in three other years since 1913 during which the United States was making a larger production than in 1922 without there being any serious complaint of labor shortage. Moreover the transition from the first quarter of 1922, when unemployment was at the maximum, to the suppositious conditions of the fourth quarter is rather too kaleidoscopic.

None of this is to be construed as supporting the present immigration law, which is designed in a stupid way. Nevertheless, let us recognize that although the labor unions are in favor of immigration curtailment for reasons of their own, the main spirit that is behind the thought of immigration control is the idea of a large part of our

people that we have been putting too much infusible material into our melting pot. I am in favor of maximum liberality in immigration policy, fundamentally for the reason that artificial economic barriers are generally unwise. A sane policy in my opinion would be in the first place to make the acquisition of American citizenship far more difficult than it is now. Register the 8,000,000 aliens that we now have with us. Institute selective immigration, controlling the movement from the ports of origin. Keep track of the immigrants after they arrive here and steer them to the places where they are needed, preventing them from congesting in the big cities. Finally, although perhaps this is not pertinent to the subject, I should like to see legislation making labor unions subject to the same laws as corporations and limiting the right of membership in labor unions to American citizens.

Should Know Our National Ideals

Written especially for AMERICAN INDUSTRIES

By JULIUS G. LAY
Of Speyer & Company

WE are proud of the policy we have pursued of offering a haven in this country to the oppressed and wish to welcome those who will assimilate with us, and although conditions have recently forced upon us restrictions upon immigration and it is proper that safeguards should be enforced against undesirables, the interests of this country still call for a more liberal immigration policy.

The present immigration law, limiting immigration to 3% annually of each nationality residing in this country, has undoubtedly prevented the United States from being flooded with large numbers of undesirables mostly from the war stricken countries of southeastern Europe where many of the people have been imbued with revolutionary ideas, but since this law has been in effect our foreign labor supply depleted by the suspension of immigration during the war, has not been replenished. In fact more unskilled foreign laborers left this country in the fiscal year 1921-22 than entered.

The existing shortage in the labor supply in a few of our important industries is due to a great extent to labor not having returned to its normal channels and largely to the maladjustment of the supply. The wide discrepancies between the wages in the building trades and those paid in the textile mills, the shortage of labor in

the steel mills and the reported surplus in the coal mines are only a few illustrations that go to show that we have not reached a proper adjustment.



Julius G. Lay

But even when these adjustments have been reached there will, I believe, be a shortage in our unskilled labor supply in many industries and on the farms as Americans cannot be depended upon for the rougher manual labor and we must rely very largely, as we have in the past, upon immigration for this class of labor if normal industrial and agricultural expansion is to be maintained.

It seems necessary therefore that the present immigration law be modified to admit a sufficient number of unskilled laborers to offset the present shortage and at the same time an effort should be made to correct the maladjustment of the present supply. The two problems are interrelated and should be considered together. Such modification of the law might provide for the admission of otherwise desirable labor in excess of the present quota when the needs of the country are shown to some central board by state authorities for the admission of such an excess and if it is feasible a system of selecting immigrants in their home countries before departure for the United States, according to our labor requirements, should be adopted.

The education of immigrants concerning our Government, after they reach this country, even though they were found to be of the desirable class upon admission, will accomplish more to keep this country free from social strife than restricting immigration. As a precaution against the spread of anti-American ideas and ideals in this country by abuse of the franchise, our National and State Governments might consider the question of requiring additional qualifications for naturalization that would better insure our new citizens being in sympathy with our political institutions.

A Refractory Manufacturer's Views

Written especially for AMERICAN INDUSTRIES

By **F. R. VALENTINE**
President, M. D. Valentine & Bro. Company

THE scarcity of industrial workers, of which we are daily receiving more and more broadening evidence, appears to be a direct result of the economically unsound immigration policy that has been pursued by our government during the past few years. Immediately subsequent to the signing of the Armistice in 1918, there began a heavy outflow of emigrants who were actuated by varying impulses and motives among which may be mentioned, curiosity to see at first hand the effect of the war upon the homeland; a desire for the reunion, so far as possible, of families dispersed or decimated by the ravages of war; and last but not least, a desire for the prestige in the individual's home community, which the possession of a considerable portion of accumulated "war-time wages," perhaps converted into European funds at a greatly depreciated rate of exchange, promised to bring.

Just how the quota law has operated may be better understood from the figures of immigration for the twelve months ending June 20, 1922. In that period the total of immigrants into the United States was 309,556, while the total of emigrants from this country was 198,712, making the net number of immigrants 110,844.

This tide of emigration undoubtedly operated to prevent a greater liquidation in wage rates than would actually occur during the period intervening between the fall of 1920 and the early summer of 1922. Correspondingly, this same ebb tide, which has in no appreciable degree been neutralized by adequate immigration, has undoubtedly contributed to a great extent toward the present shortage of unskilled or semi-skilled workers, both of whom we have been accustomed to term "laborers."

From every branch of industry we are constantly receiving notice that the "labor shortage" is developing and although this scarcity may at the moment appear to be somewhat less marked than it was early in the fall of 1922, it may confidently be assumed that unless remedial measures are applied, industry will, with the advent of spring, be confronted with a problem that may well exceed in gravity the effect of both the coal and shopmen's strikes of 1922. This thought arises from the fact that we

are prone to "relieve" a scarcity of labor by increasing wages, either voluntarily to preserve the force that we have, or under the duress of threats of strikes. On account of the weakness of human nature, increased compensation is usually accompanied by reduced production, higher costs of product, higher living costs, a demand for higher wages to meet the latter, and eventually the "vicious circle" is in full swing. The inevitable sequel is a "buyer" strike; restriction of credit by the banks, and finally the prostration of all forms of industry and business. The symptoms of the early stages of this cycle are already in evidence and will undoubtedly become more pronounced as the opening of spring makes possible a resumption in road building, building and other forms of construction, agriculture and operations in industries that are seasonal in character.

So far as the effect of the scarcity of labor upon the refractories industry is concerned, it may be said that these have already made themselves felt during the summer of 1922—in the Eastern territory wages have advanced 33 1/3 per cent from the low point of 1921; this minimum was still twice the wage rate of 1913. In central territory the advance has been 25 per cent, and in Southern territory 50 per cent. Manufacturers in the industry are in substantial agreement that with the coming of spring, demands for further advances in wages will have to receive serious consideration.

Thus far the manufacturers of refractories have in the main absorbed the greater portion of the increased cost of production, in the hope that by so doing the activity of the "vicious circle" might be retarded, on account of the fundamental position which refractories occupy in all branches of industry. However, in view of the fact that labor comprises the largest single item of the cost of producing refractories, a change in this policy appears inevitable.

In the opinion of the writer, the matter of an adequate labor supply is one of the most pressing questions confronting industry at this time; it should be emphasized at every opportunity, not only among manufacturers themselves, but also before the bar of

public opinion. Intelligent educational propaganda should be developed with a view to apprising the public of the ultimate evil effects of restricted immigration upon each individual, regardless of whether he or she is or is not a member of organized labor, or some of the churches who we understand bitterly oppose the changing of this law; the efforts of which we suspect are largely responsible for the presence of the existing and grossly uneconomic immigration law on the statute books to-day.

Regarding the labor situation in the State of New Jersey, we took this matter up with the head of the Department who handles this particular phase of work in the Labor Department in the State of New Jersey and were advised that common labor was scarce to a degree in the City of Trenton in the steel and metal industries. This naturally affects the refractory industry.

In the Perth Amboy section we were advised that there was a scarcity of common labor in the metal refining plants and in the asphalt works, as well as the fireproofing plants; and all clay mining and manufacturing plants in the district covering the clay industries of Woodbridge and those south of the Raritan River.

In Sussex County in the mining industry, especially in the mines controlled by the New Jersey Zinc Company, we found that they were short about twenty per cent of common labor, which referred both to the labor in the mines and outside.

In the City of Newark and vicinity, we learned that there was practically an even break as to common labor, except in two particular industries, that is: the shipyards and the large plant now being operated by the Durant Motor Company.

In the railroads that were canvassed, we found that there was a scarcity of skilled labor in railroad repair work; also in their unskilled labor.

In the Hudson County territory, especially around Jersey City and Hoboken, we found there was a scarcity of skilled labor in the metal trades and woodworking establishments in both the maintenance and production department.

The Building Trades Unions in re-

jecting apprentices and new help have sent the wages of bricklayers, plasterers, masons and others sky high.

Congress by keeping out the immigration we need, has made it impossible for builders to get the rough part of their work done for a reasonable amount, and thereby keeps skilled and semi-skilled workers out of employment.

With the shortage of unskilled labor what can skilled labor expect—but a shortage of materials that the skilled mechanic depends upon to work into the finished product? If the

refractory industry cannot produce fire brick how can the great steel industry keep up production; and the building trades construct buildings if the common, faced, and ornamental brick—terra cotta and fireproofing are not to be had?

We believe some provision should be made for the examination of aliens before they embark and then to be assured that they will be admitted upon arrival in the United States. For the best class of aliens will not risk the amount necessary for transportation under the depreciated rate of

exchange unless they are sure of their acceptance upon arrival.

In formulating a permanent immigration policy we should be careful to prevent our substituting for the present emergency law—a permanent measure based upon one-sided experience. In this way our representatives in Congress may be forced to recognize a necessity confronting the nation as a whole as opposed to the selfish desires of one particular class, and lead to the amendment of a law that is at once uneconomic and undemocratic.

Would Maintain The Highest Standards

Written especially for AMERICAN INDUSTRIES

By **DANIEL WILLARD**

President, Baltimore and Ohio Railroad

YOUR letter of December 29th is received and I note therein your request for an expression of my views concerning the general subject of immigration. I also note that the National Association of Manufacturers is in favor of a broad policy of selective immigration and believes that in the present apparent stringency of labor, the restrictive bars should be let down sufficiently to give our industries and our agriculture the immigrant labor it previously has had to draw from.

I agree with the first part of the

statement just mentioned; that is to say, I am in favor of a broad policy of selective immigration, but I am not quite able to harmonize such a policy with the latter part of the statement wherein you say that the National Association of Manufacturers is in favor of letting down the bars sufficiently to gove our industries and our agriculture the immigrant labor it previously has had to draw from. Previously in our country there was little in our immigration policy of a selective nature. The bars were so thoroughly let down as to permit

everybody to come in, the good, bad and indifferent, and I should regret very much to see that policy resumed.

I believe, however, that it is for the best interests of all in this country that there should be a reasonable incoming of immigration, partly in order to supply the common labor necessary in connection with agriculture and other basic industries, but I would much prefer to see the supply of such labor held at a point less than the actual requirements, if necessary, rather than to remove or lower the proper standard of admission.

Suggests Increase To Five Per Cent.

Written especially for AMERICAN INDUSTRIES

By **GEORGE L. MARKLAND, Jr.**

President, Philadelphia Gear Works

THE immigration policy put in force by the Congress was predicated on the belief that this country would be flooded after war adjustments. It is altogether possible it might have happened, but as yet I have seen no indications of it; rather have we lost as many as have come in, and unfortunately those whom we lost had become useful after considerable training.

Our policy on immigration is extremely expensive, and inflicts much harm and suffering at the ports of entry in this country.

The literacy test and the financial test might very well be waived in a

great many cases, and this should be done on the other side of the ocean. That, in fact, should be the process no matter what the limitations.

History is repeated in instances where the illiterate, and the man without a dollar has risen from extreme humble position in this country, to a position of trust, confidence and affluence.

The three per cent limitation law might go so far as to relieve the situation considerably if it was a positive quantity, but as it stands to-day, after emigration takes place, the immigration amounts to less than one-half of

one per cent, but so long as the National Congress is composed of men looking for political preferment, they are subject to every impulse except that of national pride, and patriotism.

The building industry, the farm, and most all the trades to-day, are suffering from the lack of men, not only those skilled in the industry, but apprentices and those who are willing to learn.

I suggest that we raise the limit to five per cent, and that the sorting out process and the elimination take place in the countries from which the immigrant comes.

From The Open Door To The Quota

Written especially for AMERICAN INDUSTRIES

By **THE HON. W. W. HUSBAND**
Commissioner-General of Immigration

IT is doubtful whether any other American problem presents so many difficult and even bewildering aspects as does the problem of immigration. Economics, politics, the public health and other fundamental factors of our civilization enter into the equation, and with such a conglomeration of interests in the crucible it is obviously a difficult if not impossible task, to evolve a policy which will be even measurably satisfactory to that many sided entity commonly called the public.

This immigration controversy began with the first settlement in Virginia and Massachusetts, and while there have been periods of storm and calm during the more than three centuries which have intervened, nevertheless the same controversy, involving practically the same factors, has continued down to the present time and there is every promise that it will go on indefinitely.

When the second contingent of settlers came to the Massachusetts coast it was said by one of their predecessors that they were "in all appearances not fit for an honest man's company." Only last week at Ellis Island a thoughtful American, looking at a typical group of present day immigrants undergoing inspection, said to me, "Is there no possible way of keeping this class of people out of the country?" It has been the same from the beginning and probably will so continue as long as America continues to attract the people of other lands.

Practically all of the Colonies enacted restriction immigration laws, some of which clearly reflect the fears and also the intolerance of the founders, but the new republic took an opposite course and for a century following the Revolutionary War maintained an open door policy with respect to all classes and conditions of mankind from every land and clime. There was, of course, continued and, at times, violent opposition to this policy, but throughout the century the ideal of America as a refuge for the world's oppressed prevailed, although it must be admitted that on occasions the refugees were treated with no little harshness.

Foreign nations banished their criminals to America and communities sent us their paupers. We complained and complained bitterly but continued to receive them until the

year 1882 when a law was enacted which denied admission to idiots, insane persons, criminals (other than political criminals) and persons likely to become a public charge. Having closed the door against four classes of aliens, Congress was not reluctant to add others to the category of those denied to be physically, mentally, morally or economically undesirable until now there are some thirty legal reasons of one sort or another why an immigrant may not be admitted. The first Chinese exclusion law was also enacted in 1882 and subsequently there has developed a policy of restricting or in a large measure prohibiting, all Oriental immigration.

The peoples of Europe and Asiatic Turkey, however, continued to enjoy unlimited access to the open door, provided they met the various tests prescribed by law, and Europe always furnished more than ninety per cent of our immigrants. Following the advent of southern and eastern Europe as the chief source of supply, our immigration grew to unprecedented proportions, and with this development came a widespread and insistent demand for restriction. Statistics showed that about one-third of the immigrants who came from these new sources were unable to read in any language and, accordingly, the so-called "literacy test" became the favorite weapon of the restrictionists. The exclusion of illiterate aliens was agitated in and out of Congress for twenty-five years and three presidents, Cleveland, Taft and Wilson, vetoed bills which so provided, but in 1917 it was added to the law over President's Wilson's veto.

Following the World War, the demand for further restriction became so intense and unmistakable that the House of Representatives responded by passing a bill suspending practically all immigration for a period of fourteen months. The Senate was more conservative, however, and substituted the Dillingham per centum limit plan, which finally prevailed and the so-called "quota law," which has provoked such widespread interest during the past year, went into effect on May 19, 1921, and recent legislation has continued its operation until June 30, 1924.

Briefly stated, the Dillingham act

provides that the number of aliens of any nationality who may be admitted to the United States in any fiscal year shall be limited to three per centum of the number of persons of such nationality who were resident in the United States according to the census of 1910. "Nationality" is determined by country of birth, and in effect the law applies only to Europe, Asiatic Turkey, Persia, Asiatic Russia, Africa and Australasia.

The admitted purpose of the law is to limit immigration from southern and eastern Europe, without interfering with the normal movement from the northern and western European countries, which in immigration parlance include the British Isles, Scandinavia, Germany, France, Netherlands, Belgium and Switzerland. Prior to the war 750,000 or more immigrants were admitted from the first named sources in a normal year, but under the Dillingham Act only 158,200 may be admitted annually from such sources. On the other hand, the normal annual immigration from the older sources was only about 180,000 prior to the war, but the per centum limit law will permit 198,000 to come. During the fiscal year ending June 30, 1922, southern and eastern European countries used more than ninety-five per cent of their allotted quota, while the older sources named sent us less than fifty per cent of the number allotted to them.

Of course, it was inevitable that the operation of a law which arbitrarily held back hundreds of thousands of intending immigrants should result in hardship to many individuals, and a severe strain on the machinery of the immigration service. However, the characteristically humane action of Secretary of Labor Davis in temporarily admitting a total of 2,500 excess quota immigrants as a measure of humanity, the patient and unrelenting work of our immigration officials at ports of arrival, and the splendid co-operation of American consular officers in Europe, made a humane and effective administration of the law possible, and, while the quota law has its faults, it is doubtful whether by any other method the purpose of Congress could be so effectively carried out with so little hardship to the immigrants concerned.

It is not possible to say how many

immigrants have been prevented from coming to the United States during the past by reason of quota law limitations but in the fiscal year ending June 30, 1921, more than 800,000 immigrant aliens were admitted, and

had it not been for the law it is probable that a much larger number would have come in the year just ended. Therefore, it seems safe to say that the operation of the law has held back at least 500,000 European immigrants

who otherwise would have come to the United States in the year ending June 30, 1922. The purpose of the law was to restrict immigration and it has certainly accomplished that purpose.

Our Labor Shortage Uneconomic, Unsocial

Written especially for AMERICAN INDUSTRIES

By **CHARLES H. SABIN**

Chairman of the Board, Guaranty Trust Company of New York

IN response to your request for my opinion on the immigration situation, I am glad to reply briefly, as I am for the most part in accord with the position taken by the National Association of Manufacturers in its policy of selective immigration.

Evidence is rapidly accumulating to verify the judgment of those who foresaw the harmful consequences of the unduly restrictive immigration law which has been in effect in this country since June 3, 1921. And there can be no question about the need for sane revision of the present statute.

There is no occasion, of course, to amend the law in radical fashion. All that is required is the application of the rule of reason before we suffer irreparable economic loss through the continued enforcement of a policy which is slowly but surely shutting off our supply of common labor, and thereby increasing the costs of pro-

duction and living and retarding the progress of the country.



Charles H. Sabin

In the five years immediately preceding the World War more than one

million five hundred thousand common laborers and in excess of five hundred thousand skilled workers arrived in the United States. Many of our most important productive industries have depended largely upon the efforts of foreign-born wage earners, and the building of our railroads and highways as well as other construction requiring unskilled labor, has been done for the most part by this type of worker. But the rapidly growing reports of the shortage of such workers in various parts of the country bears testimony to the effects of the existing "three per cent" immigration law and foreshadows very serious results for business generally—and that means for the nation as a whole.

For this country, with its great undeveloped resources, to voluntarily create a labor shortage for itself would not only be uneconomic but unsocial in view of world conditions.

Should Stimulate Desirable Immigration

Written especially for AMERICAN INDUSTRIES

By **HAROLD H. EMMONS**

President, Detroit Board of Commerce

ONE of the peculiar rulings of our immigration laws that is hard to understand is why certain countries quickly exhaust their immigration quotas while other nations whose population would ordinarily have strong reasons for emigrating, fail to supply even fifty per cent of the number that might travel to this country and find far more congenial conditions here.

Surely the conditions of living in Germany during 1922 were not the most desirable, and yet Germany might have sent nearly 50,000 more emigrants than came to our shores. Great Britain, for instance, is entitled to have about 77,000 emigrants come to the United States, yet, during the last fiscal year, just about 39,000 came

here, even though times were gradually getting better here, while in England, workers by the hundreds of thousands were barely living and work for those who were not dependent on charity was extremely slack. The Scandinavian countries with their very desirable class of emigrants, used up less than half of their quota.

In the present apparently increasing stringency of labor with a seeming dearth of desired laborers, Secretary of Labor Davis points out that the immigration laws cannot be said to restrict immigration, because the bars for last year were still open to more than 100,000 from Northern Europe. It would, however, be more correct to say that the laws are restrict-

ing immigration from countries where the natural impulse to emigrate is most pronounced.

Is it not possible that those who are blaming the immigration act for labor shortage might meet the present situation by devising some means of stimulating immigration from countries which have quotas to fill, and which quotas would be filled by the more desirable class of immigrants? True, workers cannot be brought to the United States under contract, but could not the attention of certain acceptable types of immigrants from Northern Europe be directed toward this country when there really is a demand for more workers and at the same time not violate any laws?

Immigration, Simple Business Proposition

Written especially for AMERICAN INDUSTRIES

By FREDERICK A. WALLIS

Formerly Commissioner of Immigration, Port of New York

NOTHING more affects the social, economic, political and industrial conditions of this nation than the foreign-born, and no problem is greater than that of the immigrant.

I was summoned to Washington while Deputy Police Commissioner of New York City, and was offered and accepted the post of United States Immigration Commissioner at the Port of New York. While in Washington, a United States Senator of this state said that if I would go to Ellis Island, the Gateway of the Nation, through which is passing about eighty-five per cent of all the aliens coming to this country, I would help to solve the greatest problem confronting Congress and the American people. Someone else said at the same time, that even the League of Nations paled in the light of the significance of immigration. For over eighteen years I have been actively interested in the social advancement and economic welfare of the foreigner in this city, and I have no hesitation in saying that our problem in this country is not immigration, but the immigrant. Immigration can be regulated by legislation or diplomacy, or by both, but the immigrant cannot be handled in this way. He is a human being and must be treated as such. He is flesh, blood and spirit, subject to like passions as ourselves. It is true that he comes largely from the humbler stratum of society untutored and unlearned. His skin is dark and coarse and grimy, but if you prick his skin there is red blood, and it is the red blood of a human being. That is the thing we are dealing with in this country.

For that matter we are all foreigners. Every person who reads this article has foreign blood coursing in his or her veins. It may be one generation back, it may be ten generations back, but the foreign blood is there and we are all proud of it. We have become educated and refined and our lines have fallen in pleasant places. We have improved our heritage until America has become the ideal and coveted home of the liberty loving people of all nations.

Face to face with the immigrant on Ellis Island, day in and day out, a business man learns to look upon immigration as a very simple business proposition after all. As one looks upon the upturned faces of the great

throng of aliens in the inspection hall and finds all eyes fixed upon the desk of the inspector as though it were some holy shrine of deliverance, one's mind turns back countless pages of history to the Chapter of Genesis, which tells how Cain crossed over into the land of Nod; or to the Book of Exodus, when the Israelites fled Egypt; or to that chapter in our own national history about the Pilgrim Fathers landing upon the New England shores. It is the same old story; the immigrant of to-day is coming here to better his condition. To let him do so without lowering our standards of living is the whole question.

The widespread antagonism to immigration lies unquestionably in the lack of a true understanding of its importance to our present economic system. Alarmist statements, either by the open door advocates or the total exclusionists, will, in my opinion get us nowhere along the path of a correct solution of this great problem. The immigrant is here, has always been here, will always be here. The nation itself is largely the work of his hand and brain. He founded the country, cleared the forests, developed its resources, fought for it, died for it, and the last war proved that the new immigrants were not greatly different from the old.

Like a mighty river flowing on to the ocean is the continual stream of eager and picturesque immigrants passing daily through Ellis Island. No sooner have they landed than they scatter to all points of the compass, most of them going to the cities. According to an authority, the territory where nearly eighty per cent of them go is well defined. If a line were drawn from the northwestern corner of Minnesota down to the lower corner of Illinois, and then eastward to the Atlantic Ocean, passing through the cities of Washington and Baltimore, it would cut off less than one-fifth of the area of the United States. But contained in the portion marked off there are located more than eighty per cent of the immigrants coming to this country. The remaining twenty per cent are divided between the southern states and those west of the Mississippi River. Only about three per cent percolate through to the Southland.

It seems that this nation should have some right to say where the immi-

grant should go. Our fathers sweat blood that we might come into our inheritance and yet we must wait twenty-one years before we can exercise our full prerogatives as American citizens. The immigrant comes to this country and in five years he is electing our mayor, our governor, and our president. He goes when and where and how he pleases, so long as he does not trespass upon the rights of those about him.

Where does he go? He follows just in the trail of his countrymen, crowding into the already over-congested districts of our cities; putting up the price of food stuffs, increasing rent, multiplying disease and imposing a greater tax upon our penal and eleemosynary institutions. The police records of our cities show that it is in the congested districts of our cities where anarchy and bolshevism breed, where organized vice and crime trample law under foot, where the hold-up man laughs at constituted authority, where the criminal classes are recruited, and where crime reaps its greatest harvest. And as goes the city so goes the town. If these great nerve centers of the nation are to be kept pure and safe, if we are to maintain a reign of righteousness and peace and compel the forces of darkness and evil to flee away, then our government must have the intelligent and vigorous support of its best citizens in successfully meeting these problems.

This country is greatly in need of immigration. There are sections of the country paying fabulous prices for labor. There are other sections that do not want immigration at any price. What we need is not only scientific selection, but intelligent distribution of the aliens coming to our shores. Builders and contractors both in New York and Boston have told me in the last two weeks that their building operations are seriously hampered, if not frustrated by the lack of labor. I understand that they have been paying \$18 to \$19 a day for plasterers; \$14 a day for carpenters and from \$8 to \$10 a day for painters. Even at these fabulous prices there has been a dearth of labor in certain sections and in certain channels.

Some time ago a western city said they did not want immigration at any price. Another city within three hours run of this place was offering \$8.50 a day for unskilled labor. This

condition can be multiplied many times throughout the country.

The Vice-President and two other officials of one of our great western railroads said to me not very long ago that the Northwest was sorely in need of immigration. The most significant thing that the vice-president of that railroad said was that unless immigrants in large numbers were sent to the Northwest at once sixty per cent of the soil along the railroads that was tilled the preceding year would go untilld this year. It is a very serious matter to cut the production of a great agricultural state sixty per cent before you drop a seed in the soil. The agricultural production of that state will be cut to the quick and the whole country will suffer not only for the rising price of foodstuffs but economic conditions in general will be sympathetically affected.

Canada puts up the bars and says that immigrants cannot go into certain sections of Canada. Argentina says to the immigrant you must go into this part of the country or into that part of the country. South America is positive. Canada is negative. The United States is neither. An immigrant can come and go when and where and how he pleases, so long as it does not interfere with the rights of another.

Our great question in this country is not the quantity of people who are coming; our question is the quality of the people who are coming. I doubt now if the three per cent law is worth the paper it is written on. There are more detentions at Ellis Island under the three per cent law than before its enactment. However, mental and moral defectives with a strong political "pull" seem to be making rapid progress in entering the country, while the big, strong, masculine, stalwart working man desiring to establish his home in this country is precluded. He probably does not know that there is such a thing as political "pull."

We hear much of Americanization. It is a big word, and I fear we know but little of what it means from a practical standpoint. Americanization is not the work of pressure; it is the work of patience. Americanization is for the most part an economic problem. You can no more force Americanization down an alien's throat than a minister can cram religion down a parishioner's throat. It cannot be done in that way. Real Americanization is simply interpreting to the alien the better things of our American life, and interpreting them in terms of fairness and good will. Americanization can be best achieved through the force of environment, night schools, Sunday schools, better living conditions, suffi-

cient wages and hours of employment which guarantee a healthful life. If we give the immigrant to understand that this great nation is his opportunity and that our government is his friend, then, and then only, will he make his best contribution to American life and labor.

At the nation's main gateway on Ellis Island the government at a cost of many millions has established its immigration station. This station is not only the most interesting spot in the world but it is also the most human spot in the world, and it is interesting because it is human. It is literally a vale of tears; men, women and children crying everywhere. Someone has tragically said that the ocean is just the tears of the world gathered up in a great basin. If this is true then our New York Bay is just the tears of Ellis Island gathered in a basin. The experiences at Ellis Island would melt a heart of granite. The longer I remained there the more sensible and sensitive I became to their needs and sufferings. Indeed, every day is Judgment Day for many people at that place, and the great final day of Assize will probably not disclose sadder scenes than we see daily enacted at Ellis Island. A sharp knife is being run daily through the hearts of the people there. Families are being cut in twain, husband and wife separated, children taken from parents, or one taken and the other left. It is all wrong and should be stopped immediately.

These people have been saving for years, denying their families the very necessities of life in order that they might get together sufficient funds to come steerage. After years of sacrifice and saving, they come to this port only to be sent back to Europe. And sent back to what? Literally to the devil and his cohorts. Europe is worse off to-day for the present than during the war. These people are turned back with no home, no business, broken in pocket, and what is a thousand times worse, broken in heart and in spirit. No one can picture the scenes of anguish at this port. Frequently it is necessary to carry people bodily from the building and put them on the ship, many of them go into hysterics and attempt to jump overboard.

At Ellis Island there were more than forty immigrants ready for deportation to Poland. They began crying and screaming and said they could never go. The next morning they had to be carried bodily hand and foot aboard the ship. When the guards went into the detention rooms, the women became hysterical, kicked and fought and bit the guards on the hands and wrists. Many of them be-

came so crazed that they threw themselves to the floor and beat their heads on the tiling until the blood actually flowed. They were finally overpowered and carried out to the boat, and it was with the greatest difficulty that at least two of the women were prevented from throwing their babes into the water.

Another time when one hundred and sixty immigrants from one boat were refused admission they became hysterical and a great number of employes were required to keep them from jumping overboard. Quiet was not restored until every living soul was taken ashore. These cases can be multiplied many times, and often in more horrible cases than I have related.

The day must come when this government must enact humane immigration laws which will assure the immigrant who reaches our shores humane consideration and immunity from cruel treatment. It ought not to be difficult for a nation of our education, our intelligence, and our humanity to frame just laws that will exclude those who are physically, morally or mentally unfit.

Above all things, I believe that the great immigration question, and also the great educational system of our country should be protected from the maneuvering of politics, because it is from the standpoint of policy too important, from the standpoint of humanity too sacred, to be exploited by partisan and private interests.

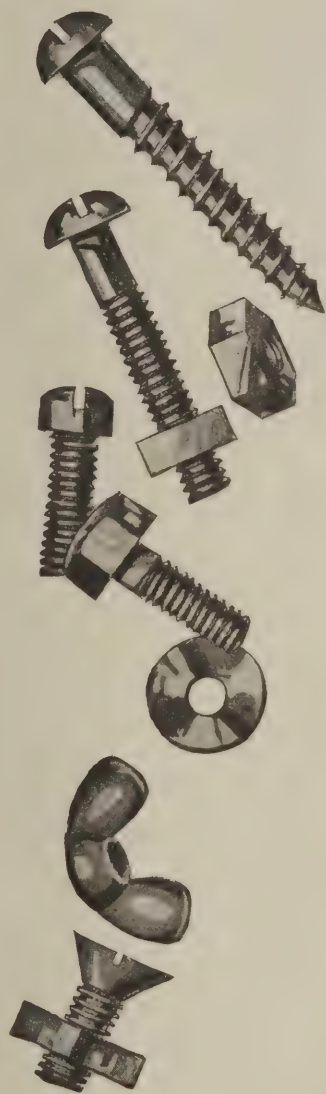
Furthermore, I may again state that after many years of active interest among foreigners in New York, and by the way, eighty-five per cent of our great population—eight millions by day and six millions by night—are either foreign-born or of immediate foreign parentage, I am fully of the opinion that there are only two great fundamental, primary, elementary measures or propositions that will ever solve this problem of the foreign-born. From the press, the pulpit, the lecture platform and all civic organizations, a thousand suggestions have been offered as panaceas for the ills of immigration, but the only two great measures that will solve this problem are the following:

First. Scientific selection. Every man, woman and child should be examined and inspected on the other side of the ocean, long before they are allowed to put their feet aboard the ship for the United States.

Second. Intelligent distribution. This government should have some right to say whither these people shall go. Not that we would separate families, as is being done at Ellis

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Island to-day, but that we would let it be known on the other side that so many thousands of men were needed for the wheat fields of the West, the cotton plantations of the South, the coal mines of West Virginia and Pennsylvania, the textile mills of New England, and so on. A double purpose would be served in thus helping these people, which could be done through a Bureau of Supervision or Welfare of the Government. They would go then where they are most needed, and consequently get larger wages. Furthermore, they would be afforded better living conditions and more helpful environment, thus building a happier America and a more contented citizenship with an assured future.

And if three measures are necessary to solve this problem, I would add registration naturalization. America is intended for Americans, and every foreigner coming to these shores expecting to earn his livelihood here and expecting to send funds back regularly to the homeland, should be made not only to register but to become naturalized and a part of this

government. If he is coming over here to share in the privileges and the benefits of this land of promise and fulfillment, he should be made to contribute his share to the up-keep of the government. If he is not willing to do this, then he should immediately be sent back to the country whence he came.

In the selection of the immigrant on the other side we should urge stringent restrictions, even to the extent of requiring of every alien knocking at our door, a medical certificate from a doctor, of country whence he came, that he or she was not afflicted with infectious or communicable diseases. I would go even further than that. I would require every alien to produce a police or penal certificate that he or she had not served a term in prison for some criminal act. In this way immigration would be reduced to a number and character that could be readily absorbed and assimilated into our national life. And this we would do at the ports of embarkation and not at the ports of entry of this country.

It is said by many that the other nations would not permit us to come

to their shores and pick the desirables from those seeking domicile or citizenship to this country. If this policy were adopted, either through diplomacy or legislation, I believe it would be only a short time before public opinion in those countries would so assert itself, that such nations would be asking us to send our doctors and our inspectors to their ports. Inspection over there is infinitely better than rejection over here. The day must come when there will be a change in this inhumane and unbusiness-like system of bringing the immigrants thousands of miles to our shores only to be denied admission.

The gates at Ellis Island I believe, should swing both ways. They should swing inwardly in cordial reception to the alien in sympathy with American ideals, who is willing to work and who is willing to become a corporate part of the United States. But these same gates must swing outwardly, eternally and impassably, to the man or woman who by word or deed, would destroy the peace and tranquility of this nation or threaten the overthrow of her free institutions.

Favors An Immigration Control Board

Written especially for AMERICAN INDUSTRIES

By A. C. REES

Manager, Utah Associated Industries

THE perpetuation of American ideals is the foundation upon which all our progress and development must rest. People who enjoy the benefits derived from citizenship or even residence in this country must catch and hold the real American spirit in its best and deepest significance if our present institutions are to endure.

This principle should be the guiding one in ascertaining and deciding who, henceforth, shall be admitted to our shores. Those who are maintaining watchful care over the quality of our citizenship must never consent to the abandonment of selective immigration. The present upheavals in over-seas lands are largely the result of sinister movements inspired by those who would wreck and ruin, and who, in their fury have overturned governments only to supplant them with desolation and despair. Such an element must be forever barred from American soil. But of the clean-minded, right-thinking, physically fit we can have none too many. It is they who have built up our institutions, who have fostered our ideals, who have developed our resources, who have made America.

In our changing conditions it would

seem that our immigration law should be sufficiently flexible to regulate the inflow according to the needs of the hour; that a commission composed of



A. C. Rees

the cabinet heads in the Departments of Agriculture, Labor and Commerce should be appointed to supervise and control immigration. Their work would necessarily be intelligent and effective, and their decisions sound, for they appreciate the needs of in-

dustry, agriculture and commerce. They are in a position to know the quantity and quality of immigrants and the particular nationals required for the promotion of our economic and industrial life. They would not fail to keep ever in mind the social aspect of the whole question in all their rulings and decisions.

It is my firm belief that our consular service should be provided with machinery for a rather searching investigation of applicants at places of embarkation. Many a tragedy and stupendous financial losses could thus be averted. This, however, will not supplant, but rather supplement, the formal and final investigation at the port of entry.

Then, too, when our prospective citizen arrives, his course through his difficult years of alienage should be intelligently and sympathetically guided by governmental authorities. He should be advised as to where best he could cast his lot. He should be initiated into American ways and customs, be taught the new tongue, encouraged to adopt things American in order that he may eventually receive at our hands the greatest gift within our power—American citizenship.



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Need For A Constructive Policy

Written especially for AMERICAN INDUSTRIES

By PROFESSOR ALBERT SHIELS

Teachers College, Columbia University

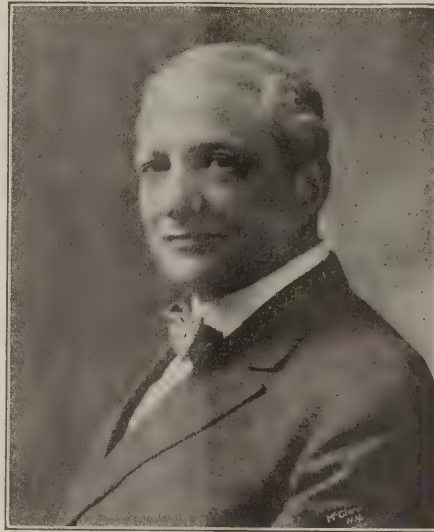
POPULAR opinion is to-day opposed to immigration. Opposition to immigration is not a new phenomenon. A special group like Organized Labor would be against it, fearing that it might reduce wages. But public sentiment as a whole has never been really favorable except in an economic emergency. Among all human beings there has always been a natural antagonism to people who are different, once they begin to be numerous.

The present attitude is remarkable only in the curious alignment of the opposing forces. The bulk of present immigration both in race and religion is different from that of the majority. Therefore, it arouses corresponding racial and religious hatreds among people who confuse patriotism with prejudice. Advocates of the Volstead law insist upon attributing all its violations to the foreign-born. A great many citizens are convinced that as radicalism and social unrest are found among immigrants, they are characteristic immigrant qualities. One school of conservationists believes that rapid industrial expansion is exhausting too quickly our national resources, and so it proposes to stop exhaustion by refusing entrance to immigrant labor. A more recent accession to the army of objectors is a small but vociferous group of ethnologists who gravely attribute to one race the monopoly of leadership in the evolution of progress. Present immigration does not belong to this superior race.

Propaganda has been active. A warning voice has been raised by a celebrated and influential weekly, and it has been confirmed by articles and addresses in hundreds of magazines and newspapers. It is not strange that the present wave of feeling appears a bit more turbulent than usual. European conditions are bad and a panic seems to have set in that the presence of too many people of that unfortunate continent may threaten us with a like fate. It is a sentiment difficult to characterize. Sometimes it manifests itself as a profound patriotism which is a noble and beautiful quality; again it appears as rabid anti-foreignism, anti-racial and anti-religious, which develops into such organizations as a Ku Klux Klan, something neither patriotic in principle nor American in conception.

There are Americans who esteem

themselves loyal citizens who do not share in the feeling, but they are seldom vocal. The employer of unskilled labor who is getting fewer



Prof. Albert Shiels

workers at higher cost is eloquent enough. As the lack of unskilled labor begins to pinch, we shall hear more from him. Business indulges in no prejudices detrimental to its own interest. If all of us were suddenly to discover that rigid restriction might hit the pocket book, we should probably feel the same way.

A coal operator or mill owner familiar with American history will not feel too greatly disturbed at the present hue and cry against the foreigner. He knows that the same antipathies, dislikes, prejudices, have operated before—even when labor unions had little influence. He has read of a national political party that elected congressmen and governors on the single platform of anti-immigration. It is not so many years since that people were scornful of "Micks" and "Dutchmen." Save that we have changed the name to "Dagoes" or "Bohunks," conditions are much the same. In 1860, immigrants were taboo; when, within less than five years war had denuded the factories, there was a right about face. Congress by resolution formally invited the unfortunate of Europe to make their home in the land of the unfortunate and oppressed.

During the ten years preceding 1914, we were admitting on the average a million immigrants a year. In 1922, we admitted less than a quarter of the number. Two are going out

for every five who come in. Of the total coming in, 50% are males; of those returning, 75% are males. The volume of American business is increasing all the time. It is possible to conceive a shortage of unskilled or semi-skilled labor. If it comes, the employer may be the first to notice it, but he will not be the only one. If material, raw or partially worked, is not available, even skilled labor may suffer. In the long run, the public must play its accustomed role, for the consumer has to pay.

There is a minority which is little impressed by many of the arguments now advanced against immigration, and which yet opposes immigration unless under conditions that will on the one hand provide for our industrial needs, and on the other will not permit an excess supply of labor. It opposes monopolies, including a monopoly of labor. Equally, it opposes sweat shops and padrone systems. It does not wish to see immigration used as a club to compel American workers to accept drastic wage reductions; it believes in the maintenance of American standards of living. The government now determines the prospective yield of wheat or cotton on a nation-wide scale; certainly it could fix our labor needs by a more intelligent method than a rigid rate per cent law.

This minority insists, however, that immigration is a bigger question than one of labor only. It recognizes the social values of the immigrant, favorable and unfavorable. The purity of race argument convinces it not at all, for its members know something of history. It wastes no time discussing superiorities of the members of one race over another for that is a task too refined for human calculation. It knows many immigrants are not over clean—coal miners and furnace workers dispense with the manicure—but it thinks there are things worth while beneath the dirt. It can recall too many who have done wonderful service for America—and they came over in the steerage. Sky scrapers and porcelain bath tubs are mighty forces in modern civilization, yet those who have seen neither may nevertheless contribute to American life—spiritual and economic.

On the other hand, this minority is in common with most Americans has misgivings when it sees these great hosts of strangers invading the coun-

try—even though the invasion is a peaceful one. Unaccustomed to our political forms, unfamiliar with our social traditions and customs, ignorant of our language, these successive waves of immigration do constitute a problem that threatens the social solidarity of the American people. It is a problem that can be solved—but not by waving it aside or by making sentimental references to some mythical melting pot.

Those who decline to give an absolute “yes” or “no” to immigration, who insist on conditions to their answer, may yet be in the minority. With saner thinking they may yet become an influential majority united by definite conceptions of principles and procedure. The present minority demands and will continue to demand one thing which the United States has never yet had—a *constructive policy of immigration*. A policy need not all be put into immediate operation, but it should be able to offer its plan and purpose. First, changes would be necessary. For example, it would advocate the abolition of the absurdity which admits only those who have no job or no prospect of a job—a law aiming to do a good thing in the wrong way. It would not discourage the dissemination of information abroad, but it would reserve to government the function of giving true information to approved immigrants without injury to the interests of Americans at home.

Second, it would retain the present negative provisions concerning admission, for this country cannot be made a refuge for the diseased, the criminal, the disloyal, and the violent. But the policy would provide funds, using the head tax now collected from immigrants, so as to permit the employment of officials numerous enough and competent enough to carry out the present law. We should have to surrender one of our favorite delusions—that beneficent legislation has a magic autonomous power, that it executes itself.

Third, the policy would limit immigration but not by arbitrary standards. There would be an impartial commission with representatives not of the Department of Labor only, but also of the Department of Commerce, of Agriculture, of Education, if there be one, of State and possibly of Treasury. At periodic intervals this commission subject to legislative limitations, would decide how many should be admitted into the country, not only according to the standard of labor needs but according to the standards of social capacity of assimilation, that is, capacity of the country to absorb the immigration. This would be determined by the ability of American officials to discharge certain definite functions intended to assure social assimilation. The Departments of Government mentioned would have a share in these functions. Whatever standards of selection might be determined, any preference seeking to penalize a person only because he was a member of a particular nation or race should be forbidden.

Fourth. Fundamental to all other provisions, the policy would stand four square on these pillars:

(a) Adequate and unhurried inspection abroad without surrender of the right to inspection on arrival. The right to do this would require negotiation by international treaty.

(b) Intelligible information to serve as a basis for conscious selection and wiser distribution. It is important that the immigrant should know where not to go—and from the standpoint of the public interest—that is where many of them do go. Incidentally, this would afford opportunity for the development of sections potentially productive and now unused, provided the government would cooperate. Distribution cannot well be forced, but other countries have been able to substitute information as an efficient inducement.

(c) Nation-wide education which would be of three kinds: the knowledge of our language; an insight into

our American life, customs and methods; and for agriculture especially, vocational training, including other vocational training only in fields where the existing supply of workers were insufficient.

(d) Protection for the immigrant through legislation during the first years of adjustment. Exploitation of the immigrant has become a fine art. His own more sophisticated countrymen have the larger share in it, but we are too prone to tolerate the conditions. Over and over again we have been told it is impossible to do all these things. It will always be impossible for those who have no desire to do them, and who therefore see only the difficulties.

To the kind of emergency and piecemeal legislation usually proposed, those who support a real policy are relatively indifferent. Schemes of importing bondmen for fixed periods arouse no enthusiasm among them—since they think immigrants should be measured in terms of their value as prospective citizens. Schemes of police supervision, registration or ticketing for immigrants as a separate class, it finds illuminating only as it affords a glimpse of the mentality of those who advocate such methods of “Americanization.” It regrets racial prejudice not so much that it hurts the foreigner, as that it tends to weaken the American ideal of fair play. Especially, it resents seeing a great public question like immigration treated as an instrument to enhance the political reputations of small politicians, the big ones and the little ones.

We have had casual legislation a plenty, and we shall doubtless have more in the future. As a people we must advance clumsily since democracies get their education in the reliable but very expensive school of experience. But the day is bound to come when our official representatives will resign themselves to the painful labor of hard thinking on this subject—probably about the time that the public demands it.

Sees Need For Many More Laborers

Written especially for AMERICAN INDUSTRIES

By JOHN L. LOVETT

General Manager, Michigan Manufacturers' Association

THE industries of the United States will be confronted in 1923 with a very real problem of labor supply. This is particularly true in reference to the State of Michigan.

The common labor situation is more or less acute at the present time, and

from present indications the industries of Michigan will have one of the greatest years in 1923 that they have ever seen. So that it is absolutely necessary that the labor supply be increased to take care of the demands for the products of Michigan's factories.

Michigan is the highest wage state in the Union and immigration will not affect the wages. Cheap labor is not what is wanted, but necessary labor to feed the raw material to the skilled men is Michigan's problem.

The high wages paid in the industries have drained the farms of

practically all available farm labor. The copper mines and iron mines in the Upper Peninsula have been seriously affected by the withdrawal from the mining operations of workers who have gone into the automobile plants and other industries.

It is imperative that the Immigration act be changed so that a greater supply of common labor may be admitted. The process of education in America makes skilled and semi-skilled workers of common laborers in a few years, and it is imperative that the common labor supply be continuously added to by immigration.

The serious aspect of the labor shortage directly confronts the farmers, and unless some amendments are made to the present restrictive act the labor to harvest the crops in the United States in 1923 cannot be had, and the farmer, with an abundant market for his products at a good price, will be unable to take advantage of his opportunity because of the labor situation.

There is no more important subject vital to the American people to-day than the solution of the immigration question. The labor organizations assume that by restricting immigra-

tion labor it will be easier to organize and unionize the manufacturing plants of the country, and will permit the labor union system of restriction of output to work more readily, and the leaders of organized labor feel that by such measures as the restrictive immigration act the labor system of England will be foisted upon the United States. I do not believe that the American workmen want the conditions of the British workmen, and the organized minority of about 4,000,000 American workmen out of 40,000,000 is trying to force un-American working conditions upon the general public.

No Fear Of Getting Too Many Immigrants

Written especially for AMERICAN INDUSTRIES

By A. J. LINDEMANN

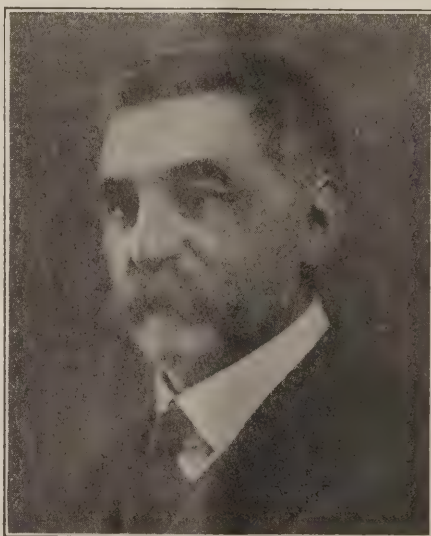
President, A. J. Lindemann & Hoverson Company

I CONSIDER the Immigration Law now in force, a remnant of some of the errors made when our country was extremely busy winning the war.

Since November, 1918, conditions have changed materially all over the world, and we should have a broader law, one which would permit a much larger percentage—that is to say, *net* percentage of immigration over and above the per cent of emigration of the various foreign-born people.

The proposition that the immigrants coming to this country are to be examined at the port of embarkation in foreign lands, appears to me to be very good for various reasons; and if in this manner no one is allowed to come to this country except such individuals as show by examination that they will make desirable citizens, I believe at the present moment there will be no further restriction necessary.

The argument frequently made that we would get too many immigrants is very erroneous, for I found while



A. J. Lindemann

traveling the Continent of Europe last summer and studying economic conditions, that only perhaps one out of ten, and in some countries a smaller percentage of those that would like to

come to the United States, can find the means and cash to attempt an undertaking of this kind.

It is pretty safe to consider that the foreigners under present stringent financial conditions who can procure sufficient money to make the trip and enter the United States, are far above the kind of people that we need dread or have any fear about.

A man who can supply himself with sufficient money to do this will make a valuable additional factor to help build up the United States.

In the last analysis, it should be considered that the United States is the best country in the world and has been made such by immigrants from the time of the Pilgrim Fathers to this day.

At the present time, it can easily be ascertained, there is no danger that we will get too many so long as the examination is sufficiently stringent to prevent revolutionary or dangerous elements from entering.

Laws Keep Out Many Desirable Aliens

Written especially for AMERICAN INDUSTRIES

By J. W. RING

President, Model Mill Company

THE subject of "Immigration" to which you asked me to contribute a few words is a very momentous one and commands the best thought of the American people.

The law enacted May 19th, 1921, in view of the developments in the United States and Europe, should undoubtedly be amended and made more liberal in its provisions. Three per cent immigration to this country, grow-

ing and expanding, with mighty industrial developments in the offing, amounts to practically nothing.

On the other hand, the amendment, designed to keep out of the United States the baser sort of European emigrant, has a tendency to keep in Europe many excellent men and women who would, if they had the opportunity, make most desirable citizens in the United States. While sta-

tistics show that this great melting pot has not assimilated all of those men and women who have come here, many refusing to make this their home country, still in the judgment of the writer the fault is more with those who have enjoyed our institutions than with those who have come here and failed to make this their real home. The genius of our constitution vouchsafes life, liberty

and the pursuit of happiness to all who will come. That spirit has made this country great in the eyes of the world in the days now gone, and there is little reason to believe that with the yoke of the oppressor on mankind in Europe, it would not stimulate those who would come and

make good and useful citizens.

I am in favor of increasing the percentage of entrants, but I also favor the Chamber of Commerce of the United States, the press of the United States, the public schools and colleges of the United States, the churches of the United States and all

coördinating their efforts and making them true Americans after they arrive. A great duty is before us, a fearful responsibility is on our shoulders. America has been equal to every responsibility in the days that are gone—The American spirit is equal to any emergency.

Have Examinations Before Leaving Europe

Written especially for AMERICAN INDUSTRIES

By **ADELBERT MOOT**
Of Moot, Sprague, Brownell & Marcy

UNDoubtedly our present law is very wise, in so far as it excludes criminals and paupers and deficients, who may become a charge upon some state, although, instead of having the examination made here, and poor men and women turned back, our agents should make their examinations at convenient ports in Europe, and only those immigrants should be brought across who have successfully passed such an examination, and can know, before starting, that when they

land they can go to their destination without being inconveniently held up at Ellis Island, or even returned to Europe.

Many very desirable immigrants have never had an opportunity to learn how to read or write, but they are desirable immigrants, because they have the disposition and the power to work, the ambition to better their condition, or that of their families, and that desire for improvement, personally and for their families, that will

make them good citizens.

We can teach people to read and write, even when they are adults, but we cannot, perhaps, make them honest, or law abiding, or competent, or industrious, where their physical and mental powers, intentions and ambitions, are of such a character that they could never pass a proper examination, or start for this country, if they had to pass that examination and get their passport upon the basis of it before embarking for our shores.

Industrial And Economic Aspects

Written especially for AMERICAN INDUSTRIES

By **MICHAEL J. HICKEY**
Assistant Secretary, National Industrial Council

THE immigration problem has within the past six months assumed a position of commanding importance, particularly with reference to industry and employment. The effects of restriction under the three per cent immigration act are making themselves keenly felt in many pivotal centers of industry and the condition resulting gives food for very serious thought.

Congress and groups in the population most immediately and directly affected are, once again, running true to form in dealing with this problem. Political aspects of an industrial and economic question seem to be the main consideration. Furthermore, despite the fact that for at least three years it has been apparent that our national immigration policies were in need of constructive revision on a practical and sane basis, the matter has been allowed to drift along on an emergency and arbitrary policy.

The present admitted "stop gap" three per cent law against the horrible ogre of a flood of alien labor, which was so successfully pictured by leaders of national labor unions, has been on the federal statute books nearly two years, and its stated life, until June, 1924, so far remains unchanged. But times have changed so that instead

of unemployment there is a widespread shortage of labor, which will unquestionably become more acute this spring, when the season permits full resumption of construction operations. Our leaders of business have come to realize the danger to our slowly growing prosperity inherent in the complete stoppage of the normal inflow of desirable workmen from abroad, which the existing legislation has largely been responsible for. At the same time our farmers have awakened to their actual labor needs and they too have urged upon Congress the sensible modification of the present law.

No thinking person would favor a complete removal of all immigration restrictions. Certainly no industrial association, or executive thereof, has advocated any policy of unrestricted immigration. On the contrary, leaders of industry are practically unanimous in their desire to do everything to keep out the non-productive persons that might desire to come here to affect us with their destructive agitation or burdensome idleness.

Viewing the subject from a purely economic angle, the outstanding needs of the immigration problem may be summarized as follows:

(1) A selective policy formulated on a sane, intelligent and effective

basis, with selection taking place as near as possible to the points of departure of would-be immigrants.

(2) Some elasticity in the admissible quota provisions to meet changing economic conditions, together with a net quota amendment.

(3) Systematic and sensible distribution of arriving immigrants.

(4) A provision requiring American citizenship of all immigrants within five years after arrival, together with greater rigidity and impressiveness of naturalization processes and requirements.

(5) Periodical registration of all aliens prior to assumption of citizenship.

(6) Less welfare work and more of the practical and effective educational forms of Americanization work done systematically by federal and state agencies, or under their supervision or control.

Coming down to a detailed examination of the industrial and economic sides of the operation of the present three per cent law, even the most casual study will reveal the unsatisfactory and harmful results it has achieved.

During the twelve months ending June 30, 1922, the number of immigrants totaled 309,556, while the

number of emigrants reached the large total of 198,712. The effect on the labor supply of unskilled labor, is likely to be of far-reaching importance, both as relates to our economic and industrial situations, especially so if emigration continues in such large volume.

Not only has the net immigration been largely reduced, but the character of the immigrants has changed very definitely. Fewer and fewer skilled workers are arriving; a larger and larger proportion of women and children—non-wage earners—is observed; the national groups from which our industrial workers are drawn actually show a surplus of emigrants, while the non-industrial types show an increase.

It is obvious, therefore, that the three per cent mathematical formula which has been applied to the immigration problem and extended to June, 1924, has not given satisfactory results. Our industries find that for every three unskilled workmen admitted, at least two leave. Pursuing

the statistical facts later than the fiscal year, we find that in July and August, 83,976 aliens entered, while 25,186 left. At least half of those admitted were females, while only one-third of those who left were of that sex.

One of the objects of the present law was to curb immigration from Southern and Eastern Europe and encourage those from Northern and Western Europe. Events show, however, that Great Britain, France, Germany, the Scandinavian and other Northeastern European countries are not sending their anticipated proportions of immigrants, while the Southern and Southeastern European countries have already practically exhausted their quotas for the year.

The real workings of the present law, in its relation to our supplies of immigrant labor may best be appreciated from the fact that our net gain in foreign-born population, during the first fiscal year of its enforcement, actually numbered only 6,518 men—and the classification "men" takes in all persons of the male sex, including

a large number of boys not yet of working age. This fact, taken in conjunction with the average annual increase, from 1909 to 1919, of 250,000 wage earners in American manufacturing industries, most of whom were supplied by the immigrant tide, clearly shows the seriousness of present shutting off the immigrant source for unskilled workers.

Recent aspects of the problem clearly demonstrate that our present three per cent restriction method is not only impractical, and essentially temporary, but actually bears the earmarks of a national evasion.

In itself our present law is arbitrarily restrictive in character, while the question really calls for a well-defined and considered policy of selective regulation. It cannot be demonstrated, for example, that the present law takes any sensible cognizance of the very real and proper relation which immigration bears to our domestic unskilled labor needs. As a matter of fact it actually ignores such practical aspects of the question.

The Coal Commission's Report

Efforts of the government body to impress operators and miners with the imperative necessity of averting another strike; states that instability has been the chief unsettling cause in industry

IN a report just submitted to the President and to Congress, the United States Coal Commission reviews the facts in the recent dispute between the coal operators and miners and makes public its telegraphic suggestions recently to both parties in the dispute sent with the view to impressing on them the imperative necessity of avoiding a strike and maintaining their agreements until April, 1924. These communications, sent in the interest of the general public, have had agreeable response with a promise of peace.

The commission lays most of the difficulties of the coal situation to instability, saying they are accounted for by large profits, labor difficulties, car shortage, over development and coal shortage.

The full report follows:
To the President and the Congress of the United States:

The United States Coal Commission, as directed in the act creating it, approved September 22, 1922, transmits herewith its first report.

The Commission held its first meeting on October 18, 1922, within a few days after the appointment of its members by the President of the United States and less than three

months prior to the making of this report. So numerous are the problems presented for our consideration by the Congress, that we deemed it essential, before engaging in public hearings, to acquaint ourselves with the phases of the industry to be investigated, and for that purpose we have devoted much of our time to conferences with representative mine operators, officials of the United Mine Workers of America, wholesalers, retailers, experts on transportation and storage of coal, and committees representing the railroads and the public utilities, believing that after these conferences the public hearings could be materially shortened by being directed to the important points in controversy and avoiding collateral issues.

An investigation of this character requires of necessity expert assistance, and the Commission immediately began and has continued, as rapidly as proper persons could be found, to secure the services of a staff of experienced investigators and assistants to study and collate the undisputed underlying facts to be gleaned from reports of previous investigations and from the activities of such Federal agencies as the Geological Survey, the Bureau of Mines, Bureau of the Cen-

sus, and the Federal Trade Commission, in order that it might use in its official reports all well-established and undisputed facts bearing upon the questions presented to it for consideration, by the Congress of the United States. This staff is also charged with the duty of preparing questionnaires and conducting field investigations which should fully reveal, when completed, the salient facts bearing upon the various phases of the mining industry. The principal investigators are named in the appendix to this report and the character of their work is there indicated. When it is remembered that there are some 8,000 mines to make reports to this Commission, it will be at once apparent that the queries could not be prepared, submitted and answered, and the returns analyzed or the field work completed within this short period of time. The Commission is unwilling to guess about the facts, to jump at conclusions, or to make recommendations on the isolated facts which it has been enabled to accumulate since its organization. But it does report that it has found the conditions set forth in this report to exist; and that the questions arising therefrom have either been submitted as queries or will be taken

up through field investigations and in public examination of witnesses.

There is, however, so much controversy over many of the questions—especially those touching on strikes and lockouts, miners' wages, earnings of companies and upon what theory these earnings are computed, the living conditions of the miners, the competition between the different fields, whether there should be cars sufficient to supply the needs of the whole country at a peak demand, whether the miner is idle because he has no work or because he does not want to work—that the Commission deems it to the best interest of the Congress of the United States not to express *prima facie* views upon these subjects, but only to give the facts and express opinions after complete investigations and deliberate thought.

The coal problem begins with a contradiction. Rich beyond all other nations in its wealth of coal resources, the United States experiences coal shortages and high prices. The coal deposits of the country are abundant and well distributed. Coal of every variety from anthracite to lignite underlies the hills and plains and mountains in beds whose content is measured by thousands of billions of tons, so that coal of a quality and in quantity that would be regarded as important by most other nations is found in all but thirteen states of the Union, and commercial mines are being operated in twenty-nine states.

Yet, with resources of coal in the ground adequate for the needs of perhaps a hundred generations of Americans, the nation's coal bin is too often depleted and too often the prices for coal are much higher than seem warranted by the wealth of coal available.

There have been during the last six years three periods when shortage in the supply of coal has given rise to acute national concern. These recurring periods of scarcity have increased the cost of this basic commodity—increases especially serious to domestic consumers, railroads, and public utilities. These experiences of unsatisfied demand and

unsatisfactory prices have created in the popular mind a conviction that the natural benefits to be expected from a condition of plenty have been denied through artificial interference. The coal industry, therefore, has been subjected to outspoken criticism, and public dissatisfaction has expressed itself in a series of investigations and in regulatory laws.

The act creating the United States Coal Commission is an expression of this feeling of public concern and dissatisfaction.

Every industry and every citizen throughout the country is directly or indirectly dependent upon coal. While it is true that a large majority of the states have coal mines within their limits, it is significant that all the anthracite comes from a narrow area 480 square miles in eastern Pennsylvania and ninety-three per cent of the bituminous coal comes from three major areas: The Appalachian region, extending from Pennsylvania to Alabama, the greatest storehouse of high-rank coal in the world; the Eastern Interior region, comprising Illinois, Indiana, and Western Kentucky; and the Western Interior region, extending from Iowa to Arkansas and Oklahoma. Any map showing the distribution of the larger industrial plants of the country would in itself demonstrate the part played by these coal fields in locating the great manufacturing centers and planning the network of railroads that connect the larger commercial cities with the rich agricultural lands of the West and South. Inasmuch as more than two-thirds of the country's supply of high-grade coal lies within these three great coal areas, they may well be regarded as its chief known sources of industrial power for future centuries. The coal problem of the country, so far as it relates to present production, then, is largely localized in three coal regions and about a dozen states, although it is recognized that each mining district, large or small, has its problems to be investigated.

In reality the coal industry includes three interrelated industries—mining, transportation and marketing.

The coal mining industry, in point of numbers employed, outranks any single manufacturing industry and stands next to transportation and agriculture. Approximately three-quarters of a million men are employed in this industry, of whom ninety per cent work underground.

The capital invested, according to the rough figures of the census, is \$2,330,000,000, of which \$430,000,000 is invested in the anthracite region and the remainder in the bituminous fields. There are only 174 producers of anthracite and eight of these control over seventy per cent of the annual output, while there are at least 6,000 commercial producers of soft coal, to say nothing of thousands of wagon mines and country coal banks. These producers operate 9,000 commercial mines.

While the anthracite and bituminous branches of the coal industry are to some degree competitive in their markets, the differences in their mining, labor, and economic problems are so marked that the discussion in this report will be limited to bituminous coal except where anthracite is specifically mentioned; the law requires a "separate report on the anthracite industry on or before July 1, 1923."

Each coal district, if not each mine, has its own local customs and problems, determined by the quality of coal, thickness of seam, altitude of the bed, conditions of mining, the markets which it can reach, its freight rates, its labor policy and other factors. In the matter of wage scales, even in the union districts where wage scales are determined by joint agreement, we find variations from district to district and from mine to mine. Still more difficult to summarize are the wage rates in non-union mines. Not only are these wage rates complicated, but the opportunity to labor varies so greatly from field to field or mine to mine, depending on character of coal, nearness to the market, and commercial connections, that it is hazardous to make any generalization concerning miners' earnings.

No less difficult under such conditions is the determination of average

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cost or profit. These subjects require specific and very detailed, painstaking investigation, which is complicated by the varying prices charged and received for the coal, quantity and quality both entering into the subject. The bituminous output is consumed approximately in the following percentages: Railroads, 28; Industrials, 25; Coking, 15; Domestic, 10; Iron and Steel, 7; Public Utilities, 7; Export, 4; Mines, 2; Bunkers, 2.

The coal industry does not end at the mine. Some 180 railroads take the coal at the mine mouth and transport it to thousands of destinations. Because the railroads are the largest customers of the bituminous industry, and because coal—anthracite and bituminous—constitute one-third of the railroad's freight the problems of the two are closely interwoven and their interests interdependent. Not only does irregularity in coal output mean serious fluctuations in revenue but excessive irregularity imposes impossible traffic demands on the railroads. On the other hand, interference with rail transportation means a corresponding stoppage of output for the mines and shortage of fuel for the consumer. No solution of the coal problem can be found that does not recognize this community of interest between coal and transportation. But this community of interest, though simply stated, is not simple upon examination. The movement of coal by rail and water is complicated by variations in freight rates, arbitrary differentials, and competition between different coals and between carriers.

Nor does the coal industry end with transportation. To connect the thousands of producers, big and little, with more than 90,000 buyers of carload lot coal scattered over forty-eight states, requires a widespread system of wholesale marketing. Sometimes this marketing is reduced to the simplest terms, as when a steel plant or railroad buys a mine and consumes its entire output. Sometimes it is conducted by the selling department of a large operating company. Sometimes the task of bringing together producer and consumer is performed by an independent wholesaler or selling agent. There are some hundreds of large wholesalers and a much greater number, perhaps 3,500 in all, of smaller middlemen. Like the business of running mines, the business of selling has its problems and, like mining, it also has its abuses.

The final link in the chain of coal supply is the retailer, who receives coal in carload lots from car or yard storage and delivers it in smaller quantities to the consumer. There are some 38,000 retail coal dealers, most

of them conducting a small business. They handle about 130,000,000 tons of coal, or fourteen per cent of the bituminous and two-thirds of the anthracite produced.

Combined charges of the railroad, the wholesaler, and the retailer in most localities exceed the price of the coal at the mines. Therefore it is readily seen that the problem whether the transportation and marketing charges are just and fair is of the utmost concern to the consumers of coal.

The widespread public dissatisfaction with the service rendered by the coal industry is not confined to matters of shortage and price, for a train of unfortunate consequences has followed those recurring periods of scarcity; deterioration in the quality of fuel delivered; congestion of railway traffic, necessitating the neglect of other freight to give preference to coal, to the serious harm of other business; and breakdown of mutual confidence of producers and consumers of coal as expressed in the customary contractual relations.

How many there are we do not yet know, but there are certain mines which contract a part of their potential output, say sixty per cent, reserving the balance for spot coal. These operators guard themselves against car shortage by clauses which compel them to fill their contracts only in proportion to the relative car supply. So in recent years, when speculators with contracts could get only a partial supply of cars, they would use only the sixty per cent of available cars for deliveries upon their contracts, while the other cars would be used for spot coal—that is, they prorate their contracts with the sole purpose of having free coal for a higher spot market.

The record of production and distribution of coal in recent years may be summed up in the word "instability," and this instability in the supply of one of the most fundamental of all raw materials has been an important cause in unsettling business and in delaying the return of normal times.

1. LARGE PROFITS.

It has been suggested to us that one of the causes of high prices of coal is profiteering. There has been profiteering in the sense that grossly exorbitant profits have been taken at times by many operators, brokers, and retailers—profits that have been disproportionate to the cost of the coal or the service rendered or the risk incurred.

But this Commission has not yet obtained the figures for the past ten-year period specifically required by the act in order to settle this question. A thorough examination of the profits

of production and distribution, including the revenue derived from associated enterprises, is already under way.

2. LABOR DIFFICULTIES.

Others attribute the instability in the coal industry primarily to labor troubles.

There can be no doubt that two of the three periods of high prices since 1916 have been caused largely by labor troubles. In the first period of scarcity—August, 1916, to March, 1918—there were no strikes of consequence, and therefore some other explanation of the high prices and distress must be found.

The second period of run-away prices, November, 1919, to late in 1920, was originally caused by a nation-wide strike of miners beginning November 1, 1919. In this case the shortage created by the strike was aggravated by difficulties in transportation, resulting in part from severe weather and in part from a strike of railway switchmen, and was further intensified by an unprecedented demand for export and by boom times at home.

In the third period of shortage and high prices, from which we have not yet emerged, the primary cause was a nation-wide suspension of mining, involving practically all union men, which closed the anthracite region completely and shut down two-thirds of the capacity in the bituminous fields of the United States and Canada. As to the merits of that suspension, whether it more resembled a "strike" or a "lock-out," the Commission expresses no opinion in this report. The point of immediate interest is that, as before, the effects were prolonged and intensified by transportation troubles until prices rose alarmingly and industrial plants began to close.

We may refer to the unfortunate and unusual coincidence of the general cessation of work in the union mines in the summer of 1922 with that of the railroad shopmen and other crafts within the same period. The former very largely curtailed the output of the mines, and the latter so affected transportation in the fall and early winter as to interfere seriously with the distribution of coal. The effect was seriously to deplete the usual supply of coal with which the country enters the winter.

When work was resumed and the mines were once more turning out their product, it was found that the increased output could not be distributed apace with production, for the effect of one cessation of labor was not so quickly remedied as the other, and not even yet has the transportation equipment been restored to its

former condition. With the shortage of coal and lack of railway facilities the fall season opened with general bidding for the supply on hand. Prices were forced up, with the obvious effect on the public.

Whatever the cause or the merits of the labor controversy, it is clear that an indefinite repetition of these crises in the production and distribution of coal would be intolerable. Industry and the home alike must be freed from the menace of constant interruption of their coal supply.

The responsibility of settling its disputes rests primarily upon the industry. The Commission appreciates not only the importance of this principle but realizes also that it is vested by the law creating it with no functions of mediation or arbitration and only when it had reliable information that the efforts of the parties in controversy to reach a basis of agreement were on the verge of failure did the Commission feel constrained to offer its suggestions. With knowledge of the fact that a suspension was threatened on April 1, 1923, in the unionized bituminous coal fields, it could not sit idly by and not use its good offices to promote peace. It therefore warned miners and operators alike that the country looks to them to settle their own disputes and to reach an amicable agreement when the present contract expires. In this spirit the Commission addressed the following telegrams to the joint meeting of operators and union miners at Chicago, on the third of this month:

To the Operators and Miners Committee on Reorganization:

The United States Coal Commission respectfully calls your attention to the fact that among the subjects assigned to it by the Congress of the United States for investigation is that of the causes which from time to time induce strikes in the industry. There is sharp conflict in opinions expressed to the Commission as to whether the cessation of work on April 1, 1922, in the unionized bituminous coal fields of America was a strike by the miners or a lock-out by the operators.

As the duly appointed representatives of operators and miners in the fifteen organized union districts, you have met for the purpose of finding a way to maintain peace in your fields. Failure to agree would create an intolerable situation. Such failure would inevitably result in most serious injury to the general business and common welfare of this country. All branches of the industry have promised this Commission their coöperation in the discharge of its duties. The Commission,

therefore, in the public interest urges upon you the obvious necessity of promptly devising some plan whereby the mines affected by your conference will be kept in operation to the end that the revival of all industry be unchecked, the uninterrupted flow of commerce among the states be maintained, and the menace of an insufficient coal supply be averted.

Business halts while in doubt as to your action and awaits with anxiety the speedy and successful outcome of your labors!

You can contribute to the peace of American economic life by reaching a speedy agreement and avoiding further conflict in the fields under your control. Your agreement will spare the Commission the necessity of fixing the blame for failure to adjust your differences.

(Signed) John Hays Hammond,
Chairman, U. S. Coal Commission.
Washington, Jan. 2, 1923.

To the Operators and Miners Committee on Reorganization:

The Congress of the United States, charged with the duty of legislation for the general welfare of the American people, has created the United States Coal Commission to investigate the coal industry and to report the facts which it may find and to make recommendations to assist the legislative branch of our government in its efforts to guarantee justice to all concerned, to stabilize the industry, and to keep the mines in uninterrupted operation.

This Commission has not yet had time to ascertain the facts nor to reach any conclusions as to the merits of your controversies, but it is satisfied that delay in reaching an agreement is bad for the whole country and that every interested party would suffer a greater economic loss by the closing of your mines even for a comparatively short period than would be sustained by a continuance of your present agreement until April 1, 1924.

If therefore all efforts to reach an agreement fail the Commission urges you in the interest of the common welfare to continue your present arrangement until April 1, 1924, by which time this commission expects to have found and reported fully all the facts over which your disagreements have arisen with recommendations to the Congress and by which time the Congress will have had opportunity to consider and take such action in the premises as it may deem wise.

(Signed) John Hays Hammond,
Chairman, U. S. Coal Commission.
Washington, Jan. 4, 1923.

In response to the above a telegram

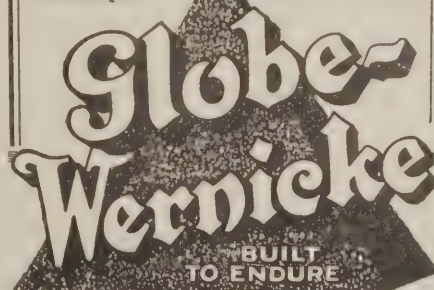


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was received on January 5 from Mr. Phil. H. Penna, Chairman of the Conference, as follows:

Your telegrams dated January 2 and January 4, addressed to the joint Reorganization Committee of Bituminous Coal Operators and Coal Miners, were given serious consideration by the operators in their meeting here to-day, after they had failed in their efforts to reach an agreement with the miners upon a method for future wage scale making.

The joint conference made earnest, serious and sincere effort to reach an agreement. The cumbersome of a nation-wide conference of bituminous coal operators and coal miners, representing fifteen producing districts, made success impossible. The diversity of opinion and the divergence of interests in such a gathering is obvious to any competent observer.

The operators' proposal to the conference was the only one upon which agreement could be reached among themselves. We believe further it offered a practical and practicable solution of our difficulties. We regret that the miners could not agree with us on this proposal. No other solution could come from this conference.

As to renewal of the present arrangement with the miners, as requested in your telegram dated January 4, a reading of the Cleveland agreement with the miners, dated August 15, 1922, will disclose that the present conference has no power, jurisdiction or authority to take such action. The conference or conferences to consider this matter comes subsequent to the adjournment of this meeting. The arrangement of such conferences is being given consideration at this time.

On January 6 the following telegram was received from Mr. William Green, Secretary of the Conference:

Your telegrams directed to me as Secretary of the Reorganization Committee, were read to the conferences of coal operators and miners. Each side decided to make reply. Both groups decided to make separate reply thereto.

The United Mine Workers' representatives were profoundly impressed with the advice and suggestions transmitted through your messages. Unfortunately, because of the diversity of interests represented in the conference it was impossible to reach an agreement upon the form and character of a wage scale conference.

You can be assured, however, that the situation is not hopeless

but, on the contrary, it is reasonably certain that a wage scale conference will convene before the end of this month.

The United Mine Workers will diligently endeavor to reach a settlement of the wage scale at the earliest possible date.

On January 11, the following telegram was received from Mr. John L. Lewis, President of the United Mine Workers of America:

The United States Coal Commission has already been advised that the representatives of the miners and operators of the Central Competitive Field will meet in Joint Conference at the Pennsylvania Hotel, New York, on Thursday, January 18, for the purpose of negotiating an agreement for wages and working conditions in the bituminous industry of that area. It is the sincere and earnest hope of the United Mine Workers of America that this joint conference may successfully and quickly accomplish that task. We are anxious to bring about, a stabilization of the coal industry that will assure the American public and business and industry in general a steady supply of fuel for the future, and this can best be done by an agreement between miners and operators that will cover a period of two years or more. A contract for such a period would enable industry and business to make their plans for the future knowing that they would be safe from such interruptions to the coal supply as have occurred in recent years.

The representatives of the United Mine Workers will enter the joint conference in good faith and with a sincere purpose to do their part toward affording such assurance. In the meantime the Commission would be relieved of all anxiety as to whether there would be peace in the coal industry, and the Commission could carry on its investigations and reach its conclusions before the expiration of such agreement.

While the Chicago conference to which the Commission's telegrams were sent took no official action, it is seen from the above replies that definite steps were taken at Chicago and this Commission has reason to believe that an agreement will be reached in the near future that will avert any widespread cessation of mine operation in the union fields on April 1, thus assuring the needed coal supply for at least another year.

We are seeking to promote industrial peace by ascertaining and publishing certain facts. The first group of these includes reliable data on wage rates and earnings, on the volume of

up within a few weeks the consequences of the five month's suspension of a large part of the coal mining.

At the beginning of 1923 the bituminous coal industry presents to the country its usual contradictions. The one complaint common to most of the coal mining territory is that of "car shortage"; yet the outstanding fact is that in spite of a miner's election day and the Christmas holidays, these coal mines produced in December, 1922, over 46,000,000 tons of soft coal. An actual shortage of anthracite has kept domestic consumers on the verge of a buyer's panic, restrained only by the coöperation of the larger coal operators with the Federal and state fuel distributors, yet the 46,000,000 tons of soft coal was probably sufficient for the country's needs for current consumption, even in December, if evenly distributed. The fact that low coal reserves in the hands of the consumers are not being rapidly replenished doubtless adds to the fear of scarcity, yet a full-car-supply for the country's soft coal mines, as rated by the railroads, would have furnished transportation in December for more than 75,000,000 tons or 20,000,000 tons more than the country ever took from the mines in a single month. Plainly, "100 per cent car supply," as based on such inflated ratings, would create a car surplus or a coal surplus far beyond the ability of the market to absorb.

4. OVERDEVELOPMENT.

Already in our study we have come to see that underlying these immediate causes of scarcity and high prices—labor difficulties and transportation deficiency—are other causes; namely, the irregularity of demand and the overdevelopment of the mining industry. These basic factors apply directly only to bituminous coal but indirectly they affect anthracite as well, for anthracite is in competition with bituminous coal and the wage scale in the one industry is influenced by changes in the other.

We find that in the bituminous industry since 1890 the mines have averaged over the country as a whole, only 213 days out of a possible working year of 308 days. These averages of course, show nothing as to the relative annual earnings of individual miners or their individual opportunity to work. In 1920, a year of active demand, the average time worked was only 220 days, and in 1921, the year of depression, it dropped to 149 days, with many districts showing a figure much below this average. Over a long period comparatively little of the time lost has been on account of strikes and that in the years when there are no strikes the aggregate time lost

from all causes is about as great as in those when strikes occur. In the twenty-three years over which the statistical record of strikes extends, the time lost because of strikes has averaged nine days a year, or less than ten per cent of the time lost for all causes combined.

The other attributed cause, lack of transportation facilities during the annual peak of railroad business, commonly known as "car shortage," enhances the cost to the consumer, but it does not explain the short working year for the miners. When the needed coal is supplied the miner gets it out at one time or another and his work takes so much time and no more. Short working time is the result of over-development in the industry. There are more mines and more miners than the needs of the country require.

A cause of part-time operations of the bituminous mines is the variation in demand for the product, in part annual and in part seasonal. In so far as the irregularity in demand is seasonal, greater in cold weather than in summer, the lost time in summer is unavoidable unless some means can be devised to encourage the storage of coal during the dull months. The seasonal fluctuation in demand varies greatly from one district to another; in some fields of the East it is unimportant; further West it is dominant.

Moreover, our preliminary studies show that even in times of maximum demand the mines as a whole do not work full time. In other words, the mine capacity is in excess even of maximum requirements. Although the country has never been able to absorb in a year more than 579,000,000 tons of bituminous coal, the present capacity of the mines is well above 800,000,000 tons.

The steady increase in the army of bituminous coal miners during the last four years, notwithstanding a lessened demand for their product is also a fact that stands out in the statistical records furnished the Commission by the United States Geological Survey. In 1918, the year of maximum coal output, when 579,000,000 tons were mined, 615,000 men were employed in the bituminous coal mines, nearly 622,000 the next year, over 639,000 in 1920, and in 1921, 663,000 mine workers were employed in producing about 416,000,000 tons. To get a year comparable in soft coal output with 1921 we have to go back to 1910, when 417,000,000 tons were mined, and it is significant that in that year less than 556,000 mine workers were employed—or about a million more tons of coal with 100,000 fewer miners.

The difference between 1910 and

1921 may be viewed by the consumer of bituminous coal somewhat as follows: The manufacturer who bought 10,000 tons of steam coal in 1910 paid for the year's labor of 13 1/3 mine workers, whereas if he bought the same amount of coal in 1921 he paid the wages of nearly 16 mine workers. This plainly is not progress, but the mistake must not be made of blaming the miner for a decreased output, for the average miner's daily output in 1921 was 4 1/5 tons, taking the 8,000 commercial mines, large and small, in the United States, and in 1910 his daily output was about 3 1/2 tons, although this difference is attributable in part to the increased use of machines. But in 1910 the average bituminous coal mine was operating 217 days as against 149 days in 1921.

This condition of over-development in mines and of surplus number of miners is an underlying cause of the instability of the industry. It means unemployment and intermittent employment to the coal miner and a direct loss to him of earning power. It explains his need and demand for a day wage rate higher than the average for most other industries. It has also adversely affected the profits of the operator and imposed a burden on the consumer.

The seasonal character of coal movement is a serious handicap to the railroads in those districts where it is the rule. If the peak demands of the mines are to be met the carriers must provide equipment for which there is no use in the off season.

The unequal distribution of work between mines, attributed by many persons to the assigned and private car system, is also being considered by the Interstate Commerce Commission at this time. By this system men in one mine may get perhaps only one day's work a week and others, even in an adjoining mine, may get six days' work, causing discontent and strengthening the demands for higher rates of pay applicable to all.

As for the public, the cost of maintaining an overdeveloped industry is reflected in the high price of coal. We do not know accurately the extent of burden, but it may well be measured by the cost of keeping in the industry an excess of perhaps 200,000 miners and their families and the excess investment in mines.

The Commission is convinced that there can be no permanent peace in the industry until this underlying cause of instability is removed. Diverse causes have apparently promoted over-development and inquiries are in progress as to the relative importance, among others, of the following: The policy of railroads toward

encouraging the opening of new mines and new mine fields as sources of revenue; car distribution rules that permit, if they do not encourage, larger capacity than the market obviously requires; the opening of new mines by large consumers; the establishment of freight rates that encourage the development of new fields; shifts in centers of consumption that abandon old fields and encourage new fields; the difference between union and non-union wage costs; large scale suspensions in the unionized fields; and irregularity of demand.

5. COAL STORAGE.

A preliminary survey indicates that much can be done to overcome irregular demand by encouraging the storage of coal, and the Commission cannot stress too strongly the great advantage of coal storage during the spring and summer for fall and winter use. This recommendation should apply to all consumers of coal—the railroads, the public utilities, the industries, and the home—and on the measure in which it may be adopted will largely depend the evenness of distribution and the cost of coal to the public during the season of heavy consumption. In addition, it will contribute to more continuous operation of the mines during the summer, distributing employment more evenly throughout the year, thus tending to stabilize the industry. Coal storage, generally adopted by the consumer, large and small, would benefit the carrier systems of the country by equalizing their load. It should have the effect of reducing the price of coal to the consumer.

The way in which to reduce the over-development of the mining industry is fraught with so many complications, not all of which are evident at first glance, that the Commission

has not had time to ascertain sufficient facts on which to base any recommendations now to be made to the Congress. While it might be expected that in an over-developed industry aggressive competition would have driven out mines with high producing costs and forced prices to the consumer down to a minimum, so many such complex factors have operated to prevent the free play of economic forces that a very detailed and comprehensive investigation is required before a valid conclusion can be reached.

The inquiry involves the whole question as to what is best for the people, free competition, government or private ownership, regulation or control in the coal industry. Should the operators in given areas be permitted to combine so that the low-cost mines would furnish the product to the people and the high-cost mines kept in abeyance to meet an emergency, properly regulated as to price and profit by some governmental agency, or should this prime necessity of life and business be left wholly to open competition in the market? This problem is of so great moment, with reference not only to theories of government but also to the economic life of the Republic, that the view of the Commission must be left to its final report.

There can be no satisfactory agreement as to wage rates and no lasting peace between operators and men unless steadier employment can be provided. There can be no satisfactory solution of our transportation problem as long as the railroads are subjected to sudden peak loads of coal traffic at the season when the demands of agriculture and industry are at their height.

The Commission believes that the public interest in coal raises fundamental questions of the relation of this industry to the nation and of the degree to which private right must yield to public welfare. It may be that both private property in an exhaustible resource and labor in a public service industry must submit to certain modifications of their private rights, receiving in return certain guarantees and privileges not accorded to purely private business or persons in private employ.

JOHN HAYS HAMMOND, *Chairman.*

THOMAS R. MARSHALL

CLARK HOWELL

GEORGE OTIS SMITH

EDWARD T. DEVINE

CHARLES P. NEILL.

I approve, and if a qualified member of the Commission would sign the foregoing report. While appointed and confirmed as a member of the Commission, being a Federal judge, I could not lawfully at the same time hold the commissionership without authorization by Congress. But at the request of the President and of the Commission I have been present and advised with the Commission in all its proceedings, without having qualified as a member of it.

SAMUEL ALSCHULER.

Because of the unusual demand for space to present the Immigration Symposium in full, American Industries is compelled to omit four pages of advertising from this issue.

—Advertising Dept. American Industries

FOREIGN TRADE OPPORTUNITIES

Inquires should be sent to the Foreign Trade Department of the National Association of Manufacturers, 50 Church Street, New York City, mentioning number of address desired.

COLOMBIA

Hosiery of all kinds for men and women is of interest to a firm in Colombia who claim they have a large sale for these goods. Correspondence in Spanish. (660)

CANARY ISLANDS

Textiles of all kinds, also knit goods of every description for the Canary Islands. A merchant and

manufacturers' representative wishes to secure American agency connections in the above. Correspondence in Spanish. (661)

UNITED KINGDOM

Representation of makers of patented machinery or novel appliances for industrial purposes is desired by a British mechanical engineer with good connections in England. (633)

ENGLAND

Machinery, supplies and apparatus of all kinds connected with the contracting and building trade, more particularly with concrete construction, are of interest to a firm of machinery merchants in London. (665)

FRANCE

Agricultural implement parts for

MacCormick, Deering and Osborne mowers are of interest to a firm of merchants in France. Correspondence in French. (666)

Pure silk and artificial silk, hosiery and half-hose for France. The inquirers state that they are in the market for large lots if prices are satisfactory and are prepared to pay cash for their purchases. Correspondence in French. (667)

SWITZERLAND

Calcine, finely ground magnesite in bags or wooden barrels; solid chloride of magnesia in iron drums; wood-flour of coarse quality suitable for the manufacture of linoleum packed in solid bags; finely ground talcum; earth colors and mineral colors all in lots of 20 to 30 tons are of interest to a firm of flooring manufacturers in Switzerland. (668)

Double headed nails used in the building trade. A firm of importers in Switzerland desires full data including export prices and highest jobbers' discounts. (669).

GREECE

Flour, food products, oleo oil and gray sheetings are of interest to a merchant in Greece. Correspondence in French. (670)

POLAND

Pumping machinery, shafting, hangers and pulleys, wire rope, telegraph and telephone material, electrical wires and supplies in general, electrical instruments. A firm of engineers and machinery specialists, etc., in Cracow, desire to hear from American manufacturers of the above. (671)

PORTUGAL

Cotton, carded wool, flax, jute and silk yarns, raw cotton, raw wool, textile machines of all kinds including looms, spinners, cards, knitting machines, etc. Correspondence in Portuguese. (672)

SWEDEN

Electric washing machines for Sweden. The inquirers desire to secure catalogs and quotations. (673)

JAPAN

Machines for creping paper, for making paper napkins, etc., etc., are of interest to a manufacturer of these goods in Japan. They desire full data including quotations, time required for delivery, and state that they would place letter of credit to be handed over against shipping documents. (674)

DUTCH EAST INDIES

Asphalt, tar, resin, enameled kitchen ware, glassware, piece goods and similar articles for Java. The inquirers desire to secure American agencies for their territory. (675)

MALTA

Office furniture and safes, watches and clocks, optical goods, paper and stationery, printing office supplies, food products, toilet articles, confectionery, hides and skins and leather. A firm of merchants and manufacturers' agents in Malta desires to secure American connections in the above. (676)

EGYPT

A firm of merchants and manufacturers' agents desire to hear from makers of a good brand of edible starch or corn starch. (677)

Laundry starch, preserved fruits and vegetables, canned meats, condensed milk, canned salmon, toilet soap of medium grade and sulphate of ammonia for fertilizing purposes, also gray sheetings suitable for tropical markets. A firm of merchants and manufacturers' agents in Egypt desire to hear from makers of the above. (678)

SOUTH AFRICA

Boots and shoes, automobile accessories, piece goods, agricultural and mining machinery for South Africa. A Manufacturer's agent already representing some British houses in various lines, desires American agency connections in the above. (679)

AFRICA

500,000 kilos of leaf tobacco, Burley B., Kentucky B., and Maryland types. The inquirers have a bid to make on the above and desire to do so in the capacity of representatives of the sellers, with commission to be paid by the seller. Correspondence in French. (680)

INDIA

Machinery, hardware, iron and steel goods of all kinds, toilet preparations and supplies, stationery, cutlery, pottery, glassware. The inquirers state that they could do a good business in American agencies in the above. (681)

Machinery for the manufacture of soda water and lemonade and soft drinks generally is of interest to a contractor, etc., in India. (682)

MEXICO

Harness and saddlery for Mexico. The inquirer desires catalogs and quotations. Correspondence in Spanish. (683)

CUBA

Canned food products, beans, pork products, flour, starch, gray cotton sheeting and hosiery are of interest to a merchant and manufacturers' agent in Cuba. (684)

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Vol. XXIII, No. 3

March, 1923

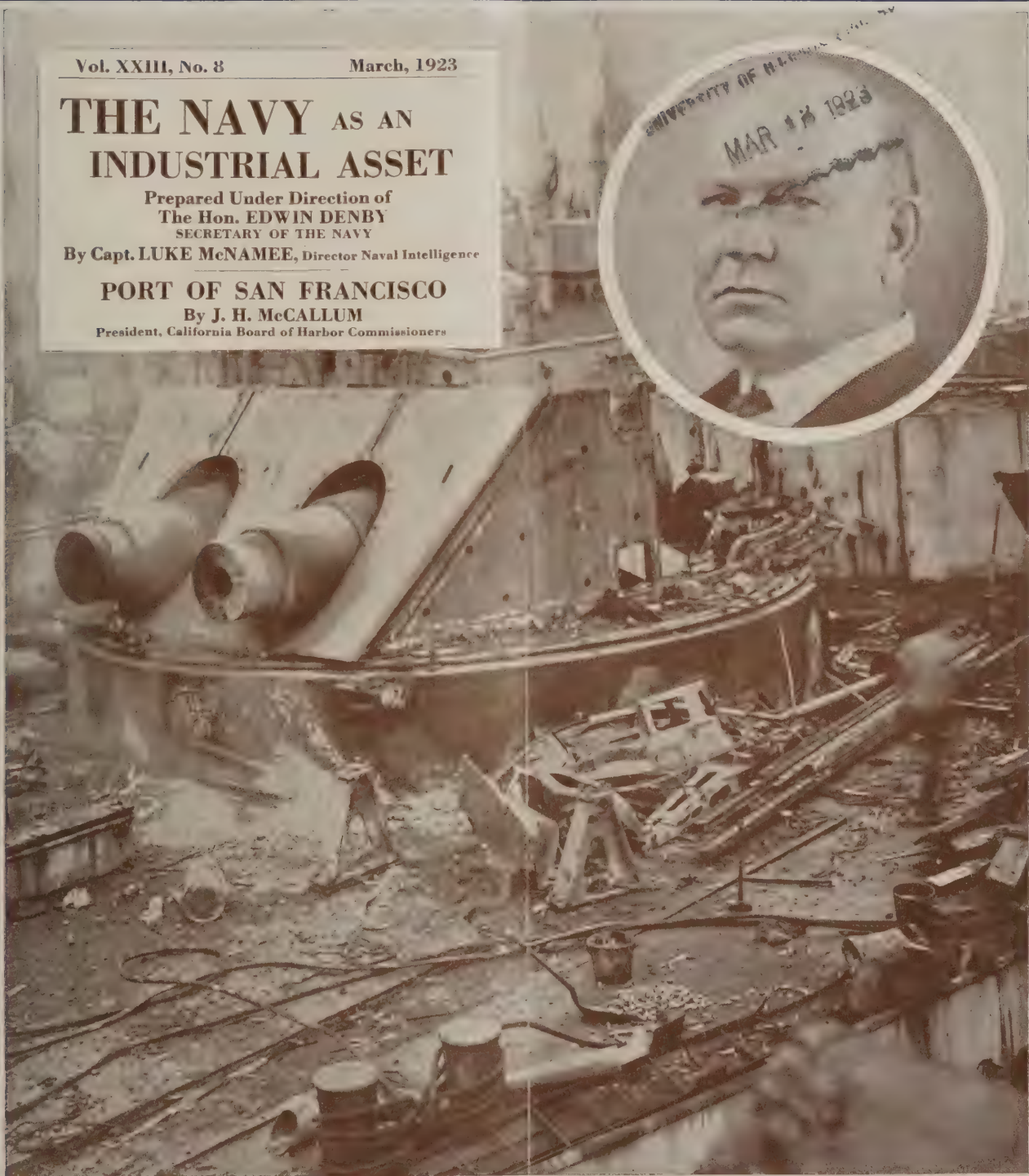
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By Capt. LUKE McNAMEE, Director Naval Intelligence

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By J. H. McCALLUM
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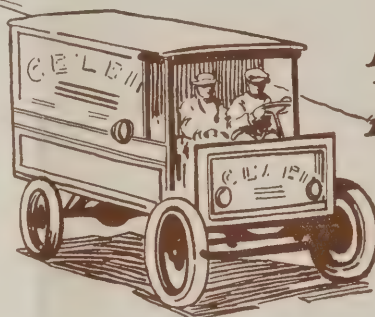
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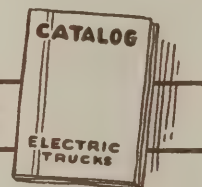


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The National Manufacturers Company, 50 Church St., New York City

Vol. XXIII

MARCH, 1923

No. 8

IN THIS ISSUE

Cover illustration: Scrapping naval vessels; showing the forward deck of the battleship "Missouri," with the two twelve-inch guns in the turret burnt off close to the turret by means of the acetylene torch. Photograph through the courtesy of Henry A. Hitner's Sons Company, Philadelphia. Page

WHAT THE UNITED STATES NAVY DOES FOR INDUSTRY - - - - - 5
Prepared under the direction of the Secretary of the Navy.
By Captain Luke McNamee, Director of Naval Intelligence.

GREAT PORTS OF THE NATION—SAN FRANCISCO - - - - - 13
By John H. McCallum, President, California Board of State Harbor Commissioners.

WHAT TO DO ABOUT OUR SHIPPING - - - - - 17
By Robert M. Nelson.

LACK OF ECONOMIC INTELLIGENCE - - - - - 19
By Alvan T. Simonds, President, Simonds Saw and Steel Company.

RESEARCH AS AN AID TO INDUSTRY - - - - - 21

THE N. A. M. BEFORE THE SENATE IMMIGRATION COMMITTEE - - - - - 22

COMMON LABOR GROWING UNCOMMON - - - - - 23
By W. S. Hays, Secretary, National Slate Association.

EDITORIAL - - - - - 24

THE CHARLES A. COFFIN FOUNDATION - - - - - 26

PERMANENT INDUSTRIAL EXPOSITION IN NEWARK - - - - - 27
By Arthur Oliver, Director.

HOME AND CITY BEAUTIFUL FAIR BY THE SEA - - - - - 29

BITS OF NEWS ABOUT MEN IN INDUSTRY - - - - - 30

RAIL CONDITIONS CAUSE LOSS - - - - - 31

WORLD TRADE - - - - - 32

ARGENTINE NEITHER BROKE NOR BLUE - - - - - 32

AMERICA AND THE SPANISH TARIFF - - - - - 34

WHAT MUST BE DONE IN GERMANY - - - - - 35
By Hugo Stinnes.

OPPORTUNITIES IN CZECHO-SLOVAKIA - - - - - 40
By Desider Feuerzeug.

CHILEAN CONDITIONS IRREGULAR - - - - - 41

FOREIGN TRADE OPPORTUNITIES - - - - - 42

FOREIGN TRADE AWAKENING - - - - - 46

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RAILWAY**

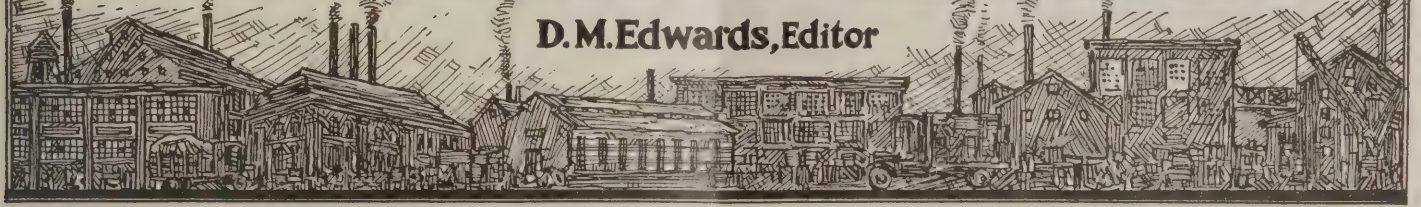
DEPARTMENT OF COLONIZATION AND
DEVELOPMENT

WINDSOR STREET STATION

MONTREAL

American Industries

D.M. Edwards, Editor



Vol. XXIII

MARCH, 1923

No. 8

What The Navy Does For Industry

Pioneers the Seven Seas in fostering and protecting American Commerce; acts as advance diplomatic agent and co-operates with manufacturers in almost every conceivable line of development

Prepared under the special direction of

The Hon. EDWIN DENBY
Secretary of the Navy,

By Captain LUKE McNAMEE
Director of Naval Intelligence

PROGRESSIVE participation in almost every line of industrial development has been the history of the United States Navy. Just now as a people we are undergoing one of the periodical revulsions against armament that seizes us after every war. In our feverish desire to scrap the Navy we are prone to overlook the fact that this organization has peacetime functions far more continuous and serviceable to the nation than its war activities; that it has set the pace in research, initiative and development in some of the greatest industries of this great industrial country. The following account is a most convincing presentation of the influence of the Navy upon the development of our industrial world as well as upon the applied sciences that have contributed so largely to the growth of modern industry. It has been claimed frequently that "every dollar spent on the Navy has been returned to the people several times over in direct stimulus given to reasonable industrial development." The reader of the following article will be bound to agree that the Navy has fairly well justified this claim.—The Editor.

FOLLOWING every war in which the United States has engaged the American people have been prone to wreck their Navy, either by ruthless reduction or by complete elimination of the fleet. This has been due to a lack of understanding of the fact that the Navy is not merely an instrument of war, but that its rôle is almost equally important to the Nation during peace also. Like the Constitution, the function of the Navy is multiple. Not only does it "establish justice," "insure domestic tranquility," and "provide for the common defense," but also to a marked degree it "promotes the general welfare," especially the general economic welfare.

The profound influence of overseas trade upon the prosperity of the great body of our citizens is too little recognized by them. Yet the most superficial reflection renders the fact obvious. Our production in nearly every important article of commerce greatly exceeds the home demand. Every year's harvest brings a large surplus of wheat, cotton, and other agricultural staples, which by the inexorable

law of supply and demand would force prices to a very low level at home but for export opportunities. In the same way our huge excess output from

eign outlet if economic stability is to exist.

The truth of these principles was forcibly illustrated by the artificial embargo of December, 1807, at a time when our production barely exceeded home requirements. Relations with England had become strained over questions relating to our freedom of the seas. President Jefferson hoped to reduce the probability of war and to "starve Great Britain into a change of policy" by forbidding foreign commerce altogether. Our seaports were accordingly closed to overseas traffic. American exports fell from \$49,000,000 in 1807 to \$9,000,000 in 1808. Widespread "hard times" resulted almost immediately, especially among farmers, whose complaints were among the principal influences that brought about a modification of the embargo.

The same principles were never so clearly demonstrated as within the last few years. Unparalleled prosperity was caused by the titanic demands of Europe for our products during the great war. The coming of peace, and an impoverished Europe, all but closed



Captain Luke McNamee

mines and factories must seek a for-

our foreign markets. The price of wheat fell to one-third its former level, and other products in proportion. Factories and mines had to close, throwing millions of people out of work, and farmers could not make expenses.

There can be no doubt whatever that the "general welfare" of Americans in all walks of life is intimately related to the transit beyond our railroad terminals and the sale overseas of our surplus products. In this phase of the Nation's economic life the Navy has always played a conspicuous part, and the need for its help will never cease while commerce continues on salt water.

The most obvious form of assistance which the Navy may render our foreign trade is physical protection. A notable example of this was afforded by our difficulties with Tripoli, beginning in 1789. Soon after the War of the Revolution we had eliminated our entire fighting fleet and did not have a single man-of-war afloat. We had built up a considerable export trade of wheat and fish to Mediterranean ports, which was constantly subjected to the depredations of Tripolitan pirates. We were even forced to make a treaty agreeing to pay over a million dollars as a ransom for the captured crews of merchantmen, and in addition to pay an annual tribute of about \$30,000. There was virtually a complete failure to conduct an important trade without the backing of a Navy; and Congress soon felt itself compelled to authorize the construction of six frigates. Two of these, the *Constitution* and the *Constellation*, are still in existence. On the completion of these vessels, operations against the pirates were undertaken and continued about fifteen years. In this campaign Commodore Stephen Decatur distinguished himself, not only in his fighting capacity, but as a diplomat. He finally compelled the Dey of Algiers to agree to a treaty by which it was declared that no tribute in any form should again be required from the United States and which also included assurances against depredation of American commerce. This was a notable achievement for the American Navy, since it was the first Navy to put a stop to the piratical practices in the Mediterranean.

Another illustration of effective assistance to American maritime commerce is given by our quasi-war with France in 1798. England and France were then at war and the neutral American vessels were frequently interfered with by the French Navy on grounds which a belligerent nation often takes against neutral commerce.

The interference became so serious that President Adams finally authorized our frigates to capture French vessels guilty of depredations on American commerce. Only a few sea fights occurred, in which the American Navy did itself much credit, with the result that the objectionable practices against our trade were abandoned by the French.

The War of 1812 also had its origin in our situation as a neutral while Great Britain and France were at war. The British interfered constantly with our commerce and even went so far as to impress for her vessels seamen from the crews of our ships. Notwithstanding the great British superiority on the sea, ships of the American Navy won many notable duels, and finally, when war on land went against the United States, the success on the sea was sufficient to cause the British to discontinue her objectionable practices.

During the late war there can be no doubt that our Navy merely by the influence of its power prevented much interference with our sea trade, which otherwise would have been made by our European neighbors prior to 1917. The fear of the United States entering the war had a great restraining influence on the Germans in the conduct of their submarine campaign previous to American participation.

In addition to these conspicuous examples of protection afforded by the Navy to our merchant marine, there are minor examples that could be cited, almost without number, of our bluejackets giving protection in unsettled regions, not only to ships, but to persons and property on shore the world over in times of local disorder.

The Navy's rôle as a stabilizer for our trade in unsettled regions is much less understood than that of giving physical protection. There are great areas of the world containing very rich markets, which are in a constant state of unrest and frequently of disorder. China, Mexico, Central America, Cuba, and the Near East are frequently in this category.

At present our trade with China is not very great, but before the American Civil War the flag of American merchantmen was more familiar to Chinese eyes than the merchant flag of any other country. No European nation was a serious competitor in this very valuable trade, which contributed greatly to American prosperity for several decades. But for the American Navy this trade could not have existed, since piracy was common in Chinese waters. While our trade with China is not great now relative to that of other nations, nevertheless the same unsettled conditions exist and

we maintain a force of gunboats on the Chinese coast and for many hundreds of miles up Chinese rivers which serve to stabilize our commerce.

The Navy has divided the whole world into sea areas and placed an admiral with a squadron of ships in each area. It is the duty of the admiral to give protection to our commerce and to our citizens abroad in the area assigned to him. At present our squadrons are operating actively in the Asiatic area and in the Caribbean area and in the Near Eastern area. These troublesome sections of the world are well covered with our men-of-war and the admiral gets information of special outbreaks in sufficient time to send a ship to the scene of trouble in advance.

We have extensive interests in the Near East, especially in tobacco and petroleum. Early in 1919 several American destroyers were ordered to Constantinople for duty in the Near East. Although these destroyers are good fighting ships, it costs some \$4,000,000 a year to maintain them on this particular duty, which does not train the crews for use in battle, as the destroyers are constantly being utilized to transfer supplies to starving people and to take refugees to places of safety.

The possible development of the economic resources of this part of the world was carefully investigated by representatives of American commercial interests. These representatives were given every assistance by the Navy, transportation furnished them to various places, and all information of commercial activities obtained by the naval officers in their frequent trips around the Black Sea, given them. The competition for trade in this part of the world is very keen, the various European countries using every means at their disposal to obtain preferential rates, etc. The Navy not only assists our commercial firms to obtain business, but when business opportunities present themselves, American firms are notified and given full information on the subject.

One destroyed is kept continuously at Samsun, Turkey, to look after the American tobacco interests at that port. A large percentage of the Turkish tobacco used in the cigarettes made in this country is obtained in the vicinity of Samsun, and the American tobacco companies represented there depend practically entirely on the moral effect of having an American man-of-war in port to have their tobacco released for shipment.

Another great rôle of the Navy not generally appreciated is its part in initiating trade through diplomacy.

During his famous expedition, Commodore Wilkes in 1839 made an agreement with the native chiefs in Samoa by which the interests of the natives and of the whalers and traders visiting the islands from time to time were safeguarded. He appointed a consul to represent the United States and took measures generally to insure amicable future relations between the Islands and the United States. This treaty was subsequently the basis of our claim to the island of Tutuila, which we now possess.

In 1826 Capt. Catesby Jones, of the Navy, negotiated a somewhat similar treaty with the native chiefs of Hawaii. While it was an excellent treaty, the Senate failed to ratify it, thereby rendering more difficult our future negotiations with those islands. The initiative and judgment of Commodore Kearney in 1840 in protecting American commercial interests is notable. The "opium war" was in progress between Great Britain and China, as the result of which American trade suffered. Commodore Kearney succeeded in obtaining a heavy indemnity for illegal acts against the persons and property of the Americans. But far more important were his services at the conclusion of the war. Learning that in the treaty of peace about to be negotiated new tariff trade regulations were to be made, giving Great Britain special advantages, he resolutely demanded that the same privileges should be extended to American citizens. He succeeded in obtaining formal and explicit assurances that whatever trade concessions were made to Great Britain should be fully and equally extended to the



Pulling the old battleships to pieces

P. & A.

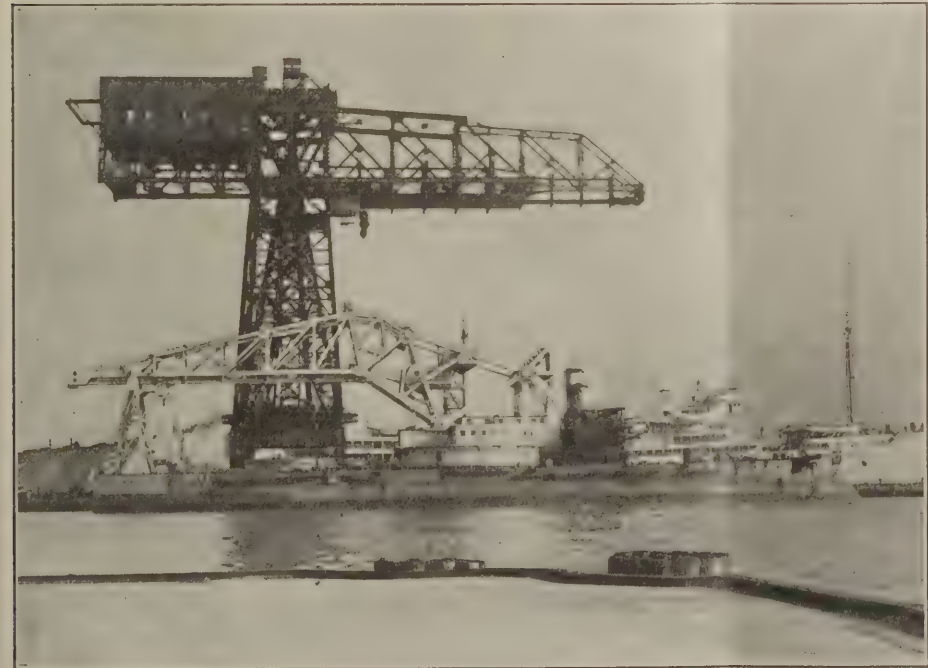
United States also. Here it was evident that the great principle of the "open door" and equal opportunities in China were really initiated by an American naval officer.

The accomplishments of Commodore Perry in opening Japan are better known. After that country had been closed to foreign trade for more than two centuries, Perry succeeded where many others had failed in initiating trade with that country. Throughout the western world his treaty was held as an unsurpassed triumph, and the highest credit was given to Perry for his diplomatic genius, appreciated in Japan as much as elsewhere.

Similar efforts, though conducted in a less spectacular way, were made by Commodore Shufeldt in 1822, to open Korea, the last hermit kingdom in the world. With the assistance of Li Hung Chang, the commodore was finally successful.

More recent examples of the Navy's breaking ground for American commerce are afforded by the diplomatic and other efforts of the Navy in Santo Domingo and Haiti. For many years, especially in Haiti, there had existed such an unstable government as to render profitable trade with those rich countries very precarious. Naval forces, including, of course, marines, finally landed and established law and order just before the outbreak of the Great War. At the present time Brig. Gen. J. H. Russell of the Marine Corps is high commissioner to Haiti, while several admirals in succession have acted in a similar capacity in Santo Domingo. With the establishment of political stability, American commerce has been established with these countries on a considerable scale and gives promise of being greatly expanded.

Soon after the armistice in Europe, Rear Admiral Bristol was sent to Constantinople to command the small American naval forces there. A large part of his efforts was immediately devoted to the promotion of American business in that unsettled region, including the countries bordering on the Black Sea. He soon established for himself such an influential position by sheer force of character and by his intelligent grasp of both the political and economic situations that he was



P. & A.

The two greatest cranes in the world—land 450 tons capacity; water 250 tons

appointed high commissioner by the State Department.

In 1902, when John Hay was Secretary of State, he made this statement after one of the revolutions in the West Indies: "I have always felt relieved when a naval officer had arrived on the scene, because he always kept within the situation." In 1904 John Hay again commented on the work of the Navy by saying: "We have had a number of difficult international situations in the West Indies in the last two years and they have all been handled by naval officers very well. They have not made one single mistake." What is true for our Navy is also true of other navies. For years the question of establishing peace on the island of Crete in the Eastern Mediterranean had troubled all the leading statesmen of Europe. Finally an international fleet assembled off Crete to see if the naval officers could not bring about satisfactory results. In commenting on the action of this fleet, Lord Salisbury, Prime Minister of England, said in November, 1898: "The admirals have shown that the government of a great ship is a great training in the art of administration and they have been able to do what the cabinets of Europe found great difficulty in doing, namely, to agree on a solution of the many problems presented to them for solution."

In order to assist in the training of officers for the merchant marine and thus encourage commerce, the Navy lends gunboats to the States which maintain nautical schools. At present the States of Massachusetts, New York, and Pennsylvania are using gunboats for the maintenance of nautical schools. The Navy contributes \$25,000 a year to help maintain each ship which has been loaned to a State.

The Navy lends two fully equipped ships, with officers and men for operating them, to the Bureau of Fisheries. This arrangement permits the scientists to carry out research work, and they have been able to locate valuable fishing banks, oyster beds, etc., which have been of great benefit to our fishermen as well as to our consumers.

Our men-of-war, while cruising throughout the world, are constantly assisting merchant ships of all countries. The naval officers are skilled navigators, and are glad to help merchantmen, correct chronometers, charts, sailing directions, and give them any other assistance. In out-of-the-way places wrecking tugs are not available and men-of-war frequently tow merchant ships to places of safety or transfer supplies to sailing ships which have run short of food. In case of mutiny on merchant ships,

men-of-war send armed men to restore order.

Just as the Navy has pioneered the seas with iron and steel ships, the Bureau of Ordnance has been the pioneer in the development of heavy machinery, in the development of high-grade steels and alloys, and, indirectly, in the introduction of a host of articles necessary to peace-time pursuits. The production of material of a purely warlike nature, far from constituting a factor that must, from an economic standpoint, be placed on the debit side of the Navy's ledger by the withdrawal of labor and material from the general production reserve of the country, has afforded business the assurance of safe backing in the development of means for producing machinery and equipment necessary for safeguarding the nation.

The products of the Navy for ordnance purposes have been on such a scale as to permit the development and economical manufacture by the same firms of many other articles of commercial use that would otherwise have been impossible of production. The needs of the country in its national defense necessarily required the appropriation of large sums for experimental purposes. Patriotic inventors, through the generosity of Congress, have had funds placed at their disposal that enabled them to develop their ideas, which, if left to their own resources, could never have been developed. The interest of civilians, as well as Naval officers, in the development of ordnance material, has in countless numbers of cases resulted in the development of many articles which are used for commercial purposes.

The history of armor development is of the greatest interest. Prior to 1890 there were no heavy forging plants in this country capable of turning out heavy forgings of either wrought iron or steel; they were produced abroad. Many attempts had been made to forge large shafting under the hammer—the only means available at that time—but the product was not satisfactory, for the thick masses of steel could not be penetrated by the blow of the hammer. Cracks could not be eliminated in the interior and the forgings were naturally unfit for use. With the improvement in range and hitting power of heavy guns came the necessity for defense, and armor plate was the logical resort. The world was searched for methods of manufacture of suitable armor plate, and in this search and subsequent laboratory investigations of the effect of alloying steel with various other ingredients, and of novel heat treatments of steel, there were discovered or evolved many of the special

alloys of iron with nickel, chrome, vanadium, and other metals which to-day are of the utmost importance to industry in general. The Bureau of Ordnance paid for many of these experiments, allowing great laboratories to be supported, thus permitting this most important work to be carried on to the highest degree of success. As a result of continued experiment in the production of high-grade steels suitable for Navy purposes, an impetus was given to this industry which carried it along to the present day, where it now stands at the head of the steel industry of the world.

In the latter half of the nineteenth century, Sir Joseph Whitworth, of England, invented a hydraulic forging press. Unsuccessful attempts were made to obtain the use of his patents in this country. An accurate description of the press could not be obtained and strangers were not permitted to visit the Whitworth shops, nor would Sir Joseph make a press for use in this country. In 1883 the Navy Department sent a gun foundry board, of which Lieut. William Jaques was secretary, to Europe for the purpose of visiting iron and steel plants. Arriving in England, the board, after considerable difficulty, was permitted to visit the Whitworth shops and Lieutenant Jaques obtained from Sir Joseph a contract giving Jaques, *personally*, authority to build a plant in the United States, the Whitworth Works furnishing the plans.

After the board returned home, Lieutenant Jaques was sent to Bethlehem, Pa., where he took up with John Fritz, the general superintendent of the Bethlehem Iron Co., the question of building at Bethlehem the forging plant which he had contracted for with Sir Joseph Whitworth. Mr. Fritz was very much interested, and after considerable difficulty persuaded the directors of the Bethlehem Iron Co. to undertake the project.

The result was the first armor plant in this country. While construction was under way, Lieutenant Jaques and Mr. Fritz made frequent trips to Europe to visit the Whitworth and other plants. While in France in 1887 they obtained from the Creusot Works a contract permitting them to manufacture certain armor in accordance with the most advanced methods of armor manufacture then in vogue. On June 1, 1887, the United States Government placed its first contract for armor with an American concern, the Bethlehem Iron Co. This company, then a small concern, expanded greatly, finally becoming the Bethlehem Steel Corporation. The variety of its products for

commercial use is too well known for enumeration.

A short time after the first armor contract was placed Commander Folger, then Chief of the Bureau of Ordnance, visited Bethlehem and persuaded the company to undertake the manufacture of gun forgings much longer than any that had been made previously. For several years gun forgings for tubes for 6, 8, and 10-inch guns had been purchased in England, and the first large caliber guns made entirely of American steel were those for the battleships *Indiana*, *Massachusetts*, and *Oregon*, manufacture being started in the early nineties.

The quality of forged steel produced by armor plants has steadily risen under pressure of more exacting ordnance specifications from an elastic limit of about 35,000 pounds in 1887 to the homogeneous nickel-steel gun forgings of to-day, which are treated to obtain 60,000 pounds elastic limit, even in the very largest forgings.

For many years forged steel was used for ordnance purposes which required great strength and maximum ductility. As the forgings grew in size, cost of production mounted. In the effort to insure safety and efficiency with economy, the Bureau of Ordnance experimented in the use of steel castings to supplant many of the forgings in use. As the result a high grade of cast steel was developed and castings of great weight were made.

In order to satisfy ordnance requirements in the manufacture of enormous gun forgings, thick, heavy armor plate, and large steel castings, special machinery had to be designed. Naturally, the cost of development was borne by the Bureau of Ordnance, but in the end the nation as a whole benefited. Hydraulic forging machinery with high power hydraulic pumps were developed. Ma-



In a Navy airplane shop

Official Photograph U. S. Navy.

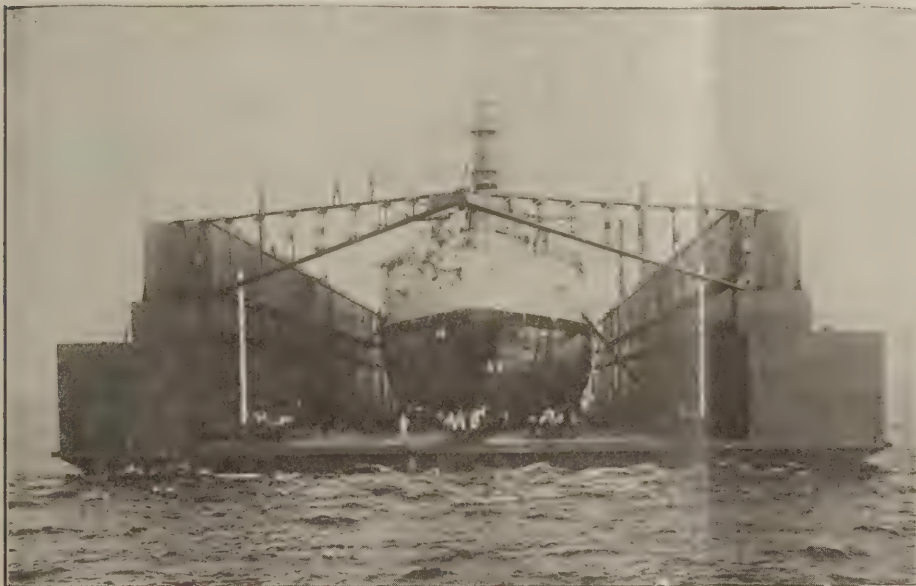
chine shop tools of larger sizes than had ever before been attempted in this country were made. Powerful traveling cranes and conveying machinery were made and first used in connection with the manufacture of ordnance material. Means of casting and handling large unit masses of steel in ingots were developed. Large plate rolling mills for the armored decks of battleships were placed in operation.

Chemical research was necessary in the development of steel for armor, projectiles, and guns, which has not only benefited the Navy in the improvement of its ordnance material, but has given to the nation steels which otherwise would have been necessarily retarded in development.

With a view to producing metal-cutting tools which would economically machine heavy armor plate and gun

forgings, the Bethlehem Steel Co. developed the well-known "Taylor-White" process of treating high-speed steel. This steel is now used in metal cutting tools that, by many, are considered as having revolutionized machine-shop practice throughout the entire world. In research work, in the chemical and physical characteristics and properties of steels, and in the installation of heavy equipment necessary to manufacture heavy ordnance material, it may be safely stated that no steel plant would have ventured the extensive pioneer work without the prospect of sufficient Government work to justify it, for in the past there has not been sufficient demand for large commercial products of size sufficient to pay a profit on the investment, regardless of whether or not some of these products are somewhat in demand. However, since the requirements of the Navy have resulted in the design and manufacture of heavy equipment, the commercial world has been able to profit.

The demand of the Navy for suitable ordnance material has made its presence felt in the field of transportation. The ever-increasing weights have severely taxed the capacity of railroads, and cars have been designed, outgrown and redesigned, primarily for the purpose of transporting guns of large caliber. In this field, the Bureau of Ordnance has been the pioneer. At the time when cars of 80,000 pounds capacity were in common use, special cars had to be constructed of greater capacity in order to transport naval guns from the steel works to the navy yards. Cars of 200,000 pounds capacity have been constructed for naval



U. S. Navy floating dry dock

Official Photo U. S. Navy

purposes, and the average capacity of the ordinary freight cars has gradually increased to the cars of 120,000 pounds capacity of the present day.

Acid open-hearth steel is generally considered more suitable for gun and other high-grade forgings than basic steel. The American ore used for the manufacture of pig iron necessary for making acid steel has not been plentiful in this country. As a result of the shortage of suitable American ore, the Bethlehem Steel Co. found it necessary to open mines in Cuba and South America and to build steamers for the purpose of carrying ore from their mines. That company now has in operation steamship lines which not only carry ore, but are used for other commercial purposes, a valuable addition to the American merchant marine.

Fire-control equipment, although of the most special military nature in itself, has been produced in such quantity that it has contributed largely to the development of the gyrocompasses and other navigable instruments whose cost would otherwise probably have been prohibitive. Indicating instruments developed for fire-control work exclusively have since found commercial application, and certain companies originally formed for the manufacture of such instruments have now expanded until they have become important factors in commercial activities in their particular field.

At the beginning of the World War, when the supply of German optical glass was cut off, the optical glass industry of the United States was in the experimental stage, although manufacture of optical instruments fitted with foreign glass was, due to military requirements, already pretty well established. The advent of the World War paralyzed the optical industry of the Nation. Patriots were invited to donate binoculars for the use of the naval fighting forces, for it was evident that binoculars and spyglasses could not only not be manufactured rapidly in sufficient numbers, but, due to our dependence upon British and German optical glass, they could not be manufactured at all. Through the efforts of the Bureau of Ordnance the facilities of optical instrument makers were increased, and as a result of investigations made by the Bureau of Standards the Pittsburgh Plate Glass Co. was induced to devote attention to the manufacture of optical glass. During the war the Bureau of Standards, the Pittsburgh Plate Glass Co., the Bausch & Lomb Optical Co., the Spencer Lens Co., and the Keuffel & Esser Co. manufactured an excellent quality of optical glass. Since the armistice the Pittsburgh Plate Glass Co. has been the only one to

discontinue manufacture. Optical glass has been used by the Bureau of Ordnance in the manufacture of lenses and prisms for fire-control instruments and the highest quality of glass is required. The glass now manufactured by the Bureau of Standards may be said to be equal in quality to the very best imported glass, whose manufacture and present state of perfection was attained after years of experience. Recognizing the importance of fostering the growing optical-glass industry, a duty has been placed upon this product, and this important industry will now develop rapidly.

The moving-picture enthusiast who is amused at seeing athletic performances and other features which have been photographed by high-speed cameras, is not at all likely to connect naval activities with his favorite form of entertainment. Such connection, however, does exist. When, in 1913, the Bureau of Ordnance found it necessary to make a scientific study of the motions of projectiles in flight, investigation disclosed the fact that no cameras could be produced, either here or abroad, that would take more than about sixteen exposures per second. For the purpose in view, however, over 100 exposures per second were required, and such a camera was an absolute necessity. The Naval Gun Factory in 1913 collaborated with the Edison Laboratories and designed and built the first three high-speed cameras in the world. The film was motor driven and actually starts and stops 6,600 times per minute. These cameras have been extensively used by the Navy Department and have been copied in their essential features by manufacturers of cameras in commercial use, until now the high-speed camera has a well-recognized place in educational and amusement activities.

One of the greatest items of ordnance development that has resulted in being a great commercial asset is that of powder. Having no manufacturing facilities of its own, the Navy purchased all of its early powders from the Du Pont Co., which was originally organized to supply the United States Government with military powders which, at that time, were the so-called saltpeter or black powders. This institution has been an important factor in the explosive industry for over 100 years, gradually expanding until it has added to its list of products sporting powders, celluloid products, paint, explosives for commercial use, and countless other articles.

During the year 1891, the Bureau of Ordnance made numerous experiments with a smokeless powder invented by Prof. C. E. Munroe, of the naval torpedo station, and developed

and manufactured at that station under the direction of Commander T. F. Jewell, inspector of ordnance in charge. This powder was tested in guns up to four inches in caliber, but did not satisfy all requirements of stability. In 1892 tests of smokeless powder were continued and a large amount was manufactured at the torpedo station. In 1893, the development of nitro-cellulose powder had reached such a stage that the Du Pont Co. began manufacture for sporting purposes. Soon afterward, that company made their first offer to the Government of military explosives made from nitro-cellulose, although it was not until after the Spanish War that smokeless powder came into extensive use for naval purposes as superior in every respect to the old, brown prismatic powder. Through their experience in the manufacture of nitro-cellulose for smokeless powders, the Du Pont Co. found they were in a position to advantageously manufacture special nitro-celluloses, commonly known as "pyroxylin," and this gradually developed into a very considerable business in the manufacture of lacquer. Following the industrial use of pyroxylin solutions the widely known fabrikoid, or artificial leather, was developed.

The Bureau of Ordnance in general takes care of the operation of the guns, the Bureau of Construction and Repair of the ships' control, the steering, etc., while the Bureau of Engineering supplies the power that propels the ship, as well as the various auxiliaries that furnish the power for handling the guns and steering the ship. Besides their major function, it must not be forgotten that the ships are the homes of the officers and crew during all weathers and in all climates, and that this personnel must be made contented, healthy, and efficient. The size of this undertaking can be appreciated if it is realized that the complement of our larger ships is of the order of 1,400 officers and men—a small town in itself.

The development in naval engineering which this country has seen in the past three decades has only been possible through the utmost co-operation between the personnel who design and supervise the construction of the machinery of the ships and the commercial firms who build and install the machinery. The rejuvenation of the Navy was started with the passage of the act of August 5, 1882, which provided for the first of the vessels of our new Navy, and it also started the beginning of that enormous growth in engineering which culminated in the projected plans of the battle cruiser—in the building into the hull of a 33-

knot ship, of machinery whose total power was upward of 180,000 horsepower, more than is found in any but a few of our largest power plants on shore.

The feature of this act, which was of the greatest importance, was its provision that the steel to be used should be of "domestic manufacture." When this bill was passed the shipbuilders of this country used either wrought iron or steel which had to be imported from England. From this beginning, the Navy Department, through all of its bureaus has been in the forefront of industrial research and development. The co-operation with manufacturers which was soon established, has been constantly maintained, the common aim always being toward the production of some more suitable material, whether it be for reasons of strength, life, or economy. Now the problems of the Navy are in no wise different from those of any other great manufacturing concern, with the possible exception that, whereas in commercial manufacturing, a tangible return upon the investment must be made; in the Navy, the return from the expenditures can not be evaluated in any known terms.

The progress in the art of metallurgy has resulted in the discovery of very many new alloys, notably in the steels, where nickel, vanadium, and chromium have been introduced, with the idea of toughening or lightening the steels and making them less liable to failure from what is called fatigue; and whenever possible the Bureau of Engineering has availed itself of the new alloys, in an effort to reduce the weight and space per horsepower of the machinery installations on board ship, thus permitting more fuel to be carried, with a consequent increase of radius of action, a point greatly to be desired.

Extensive tests and experiments on non-ferrous alloys have been carried out at the New York Navy Yard and the results of a great number of series of tests have indicated lines which it has been found advisable to follow up. Manufacturers are constantly being called into consultation with regard to the improvement of their product as a result of these tests. There is still a great field to be covered in this line, and the bureau is using every opportunity to find metals of superior quality which can be substituted for those now in use.

The development of the Diesel engine has been one of the most noteworthy achievements of the past twenty years.

One of the most important contributions of the Navy to the commercial activities of the country has been the

education of naval architects and shipbuilders. In the days of wooden ships, executives of shipyards came from the ranks of artisans and naval architects from the ranks of draftsmen. The industry ran on practical experience and on the results of past performance. Little call was made on the sciences in designing wooden ships. When iron and, later on, steel began to take the place of wood in shipbuilding, it was realized that the designing of ships had emerged from the realm of an art into the realm of a science.

Courses were soon established in certain schools in Great Britain and France to teach the subject of naval architecture, but this subject was not taught in American colleges for many years afterwards. The few naval architects and engineers in this field in the United States were at that time obtained from abroad. In 1879, Secretary of the Navy selected Cadet Engineers Richard Gatewood and Francis T. Bowles, for a course of instruction in shipbuilding at the Royal Naval College, Greenwich, preparatory to their transfer to the Construction Corps. Every year thereafter for the next twenty years, from one to five officers were selected from graduating classes of the Naval Academy for such post-graduate instruction. These officers studied either in Paris, Greenwich, or Glasgow, where the best schools having courses of instruction in this subject were located at that time. In 1901 a course of instruction for naval constructors was established at the Massachusetts Institute of Technology.

The shipbuilding industry of the United States has been drawing on these specially educated officers of the Construction Corps of the Navy for the past 30 years. To-day former officers of the Construction Corps are largely represented in the management of practically all of the important shipbuilding plants of the country. It is safe to say that without the scientifically trained personnel of the Construction Corps of the Navy to draw upon the shipbuilding industry of the United States would not have been able to respond as it did to the demands for ships during the World War.

One of the greatest advances in the science of naval architecture made during the last century was the development of the method of determining, by means of model basin experiments, the power required to drive ships. In the early days of steam propulsion the naval architect could only make a guess at how fast the ship would go on a given engine horsepower. Toward the middle of the century William Froude, in England, began experiments on the actual resistance encountered by ships

in moving through the water. This ultimately led to the development of the model basin, in which models of ships are towed, and from the resistance encountered by the model the power required to drive the full-size ship is calculated. The model basin at Washington, D. C. was designed and built under the supervision of Naval Constructor D. W. Taylor, United States Navy, later rear admiral and Chief of the Bureau of Construction and Repair. It is one of the finest basins of its kind in the world, and when built had features which were superior to all other existing basins. While it was primarily built for the work of the Navy it has been used extensively by commercial shipbuilders and naval architects to determine the power of proposed vessels. Hundreds of models of ships other than naval vessels have been tested therein. The information obtainable from a model test is so important and valuable that no sound naval architect would think of designing a ship in these days differing materially in size, speed, or other characteristics from former types without determining the resistance by model basin experiment before actually proceeding with the construction of the vessel.

The influence of the Navy on the development of the steel industry in the United States is of considerable interest. Steel plates were first used in this country for making an experimental firebox for a locomotive at the Altoona shops of the Pennsylvania Railroad, in July, 1861. It was not until 1865 that a second firebox was made of this material. The difficulties in making plates from steel were very great at that time, as steel could be produced only by the crucible process. Problems in connection with making steel plates were, however, sufficiently solved, so that by 1880 such plates were being used more or less generally for boilers and for fireboxes of locomotives. The product was still so uncertain that manufacturers would not accept orders for material conforming to specifications, and the purchaser had to depend for quality on the guarantee of the manufacturer. The use of steel for shipbuilding had practically made no advance up to 1879, although one establishment, the Pusey & Jones Co., at Wilmington, Del., had constructed five small river steamers and six lighters with steel plating, most of which was, however, imported.

In 1881 Secretary of the Navy William H. Hunt appointed a board for the purpose of recommending the construction of new vessels for the Navy. This board marks the beginning of both the modern Navy and the manufacture of steel as an industry in the United States. The board made an ex-

haustive report on the type of ships that should be built, and also recommended that these ships be built of steel. In the latter respect the recommendation of the board was not unanimous. A minority of the board, consisting of the more conservative element, reported against the use of steel as it was still considered a highly experimental material and at that time, in the opinion of these members, could not be purchased in the United States of satisfactory quality. Finally, however, after much consideration, the views of the majority of the board prevailed, and four vessels built of steel of domestic manufacture were authorized by Congress. These vessels were the *Chicago*, *Atlanta*, *Boston*, and *Dolphin*. The contract was placed with John Roach, of Chester, Pa., on July 26, 1883.

At this point the real influence of this building program on the steel industry of the country begins, not because of the tonnage involved, but because of the specifications as to quality which were prescribed. At first no steel manufacturer was willing to accept a contract to deliver steel in accordance with the specifications of the Navy Department. Finally, John Roach himself built a mill to make certain of the material. The mills which supplied the steel were the Chester Rolling Mills, Chester, Pa.; Norway Iron & Steel Co., South Boston, Mass.; Park Bros. & Co., Pittsburgh, Pa., for the ship and boiler plates, and the Phoenix Iron Co., Philadelphia, Pa., for angles, tees, and deck beams.

The Bureau of Yards and Docks is that branch which handles shore constructions, known as public works, for naval purposes. Its administration of the \$400,000,000 investment ashore during the past five years has necessarily had tangible effects in the advancement of industrial practice and the progress of engineering business.

The Navy has recently completed the construction of a chain of dry docks of the maximum size at various naval stations on the Atlantic and the Pacific. These docks, which are large enough to take any ship afloat, are fully equipped with all necessary facilities, such as air, water, steam and electric power connections, pumps which handle approximately 100,000 gallons of water per minute each, cranes capable of lifting the weight of a battleship's turret, and capstans which will haul into the dock the greatest ship afloat. Caisson gates with electrically operated pumping equipment are used to exclude the water after the ship has been placed.

In addition to their strictly naval

use, these docks have a commercial value for the reason that they can be made available for docking merchant vessels when facilities are not otherwise to be had.

It is perhaps not generally realized that a naval shore establishment is essentially an industrial plant, involving within its confines not only the construction, repair, and upkeep of ships but the manufacture of a wide variety of naval material. Among the products are boats, aircraft, chain, clothing, sails, mattresses, life-preservers, gases such as helium, oxygen, hydrogen, and acetylene, navigation instruments, etc., as well as purely military material such as guns, armor, projectiles, torpedoes, etc.

Great strides have been made by the Navy in the construction of weight-handling equipment. Cranes of various types and unprecedented capacities and lifts have been recently provided. Steam and electric locomotive cranes of 50 gross tons capacity and long reach now operate around the principal drydock and waterfront areas. The bureau has enlisted the most modern American structural practice in the provision of traveling and fixed jib (hammerhead) cranes at navy yards, ranging from comparatively small-capacity, quick-acting traveling cranes for handling the routine work of shipbuilding or fitting out, to the largest crane in the world. The latter crane, at Philadelphia, for the fitting-out of capital ships, has a capacity of 350 gross tons and a lift of 141 feet above the pier for the main hoists, with a reach of 115 feet from center of crane for the main hooks and 190 feet for the auxiliaries. The auxiliary hoists bring the total safe lifting capacity of the crane up to 430 gross tons. It actually carried more than 1,000,000 pounds under acceptance test.

In the Bureau of Supplies and Accounts at a given moment, directing the business administration of the Navy, are about 25 officers—the other 575 officers of the Supply Corps, that is, of the business corps of the Navy, are scattered on ships all over the world and at various navy yards and stations.

Through the Navy there is released into public circulation about \$300,000,000 every year. The use of this money is of inestimable value as an asset to the industrial life of the whole nation. There are few commercial activities which do not include the Navy as a customer, either direct or indirect. It is hardly too much to say that every dollar sent on its business journey by the Navy interests every citizen in some manner.

Editorial addenda: In addition to the foregoing information so ably set forth in detail by Captain McNamee, the Director of Intelligence has completed other remarkable surveys of the more technical and scientific branches of the service.

The outstanding activities of the Navy in the development of aviation during the war, are fairly fresh in the minds of the public and need little amplification, beginning with the Navy's acquisition in April, 1917, of 100 different types of aircraft; to the historic cruise of the NC 4, the first aircraft of any kind to cross the Atlantic Ocean; its subsequent purchase and study of large dirigibles, to the present construction of the ZR 1, the largest aircraft of any type ever to be built. The Navy has studied and developed, in close coöperation with private manufacturers, every unit that enters into airship construction and flight.

Equally important and successful has been its part in the rapid development of the radio industry, from the seizure at the start of the war of the German-owned wireless stations in this country, and their operation, to the subsequent development of the tremendous stations now owned and operated by the Navy in various parts of the country and in many of our outlying dominions. It has been foremost in the development of the vacuum tubes, duplex radio-telephony, receiving apparatus, high-speed transmitting and recording systems, mechanical relays, radio compass, and other devices.

The Naval Communications Service is organized solely for the swift and efficient transmission by radio of information and orders between our fleets and between them and the shore establishment for the national defense. The Navy made its first installation in 1900 and to-day its network of high-powered radio stations reaches directly every part of the world, with the single exception of a part of the eastern Mediterranean and Asia Minor; but even this sector is covered indirectly through the radio relay ships.

The Hydrographic Office and the United States Naval Observatory are the highest developments in scientific research and their aid to shipping through the publication of charts and other varied information to shippers; provides a maritime security that cannot be estimated; while the department's hospital service has improved sanitary conditions in our furthestmost possessions and in the tropics, and has taught hygienic principles to peoples and in countries where they were hitherto unknown.

Ports Of The Nation—San Francisco

Undiscovered as an entrance from the sea for nearly three centuries, the Golden Gate has developed and grown until today it has forty modern piers and cargo space of 5,000,000 square feet

Written especially for AMERICAN INDUSTRIES

By **JOHN H. McCALLUM**

President, California Board of State Harbor Commissioners

FOR nearly three centuries following the discovery of America and the Pacific Ocean, navigators sailed up and down the west coast of North America in search of a suitable harbor in which to establish a supply base for the merchant fleets then engaged in the Oriental trade, but so well protected and hidden by hills and bluffs is the entrance to the Bay of San Francisco that it remained for Portola and his soldiers coming overland up the coast, to discover the Bay in 1769 from the hilltops south of the city. Six years later, in 1775, the first ship of which we have any record, the Packet *San Carlos* flying the Spanish flag, entered through the Golden Gate and dropped anchor off the Presidio.

The Bay of San Francisco covers an area of 420 square miles with a shore line 155 miles in length and is recognized by all maritime authorities as the greatest and one of the most beautiful land-locked harbors in the world. The only entrance to the bay is through the Golden Gate, an opening between the hills and spurs of Mount Tamalpais on the Marin County side and the hills and bluffs rising from the sea on the

San Francisco side. The Golden Gate is three miles long and a mile wide at



John H. McCallum

its narrowest part between Fort Point and Lime Point, and has a minimum depth at low water of 105 feet. Three channels lead from the Gate to the open sea—the North, or Bonita channel, fol-

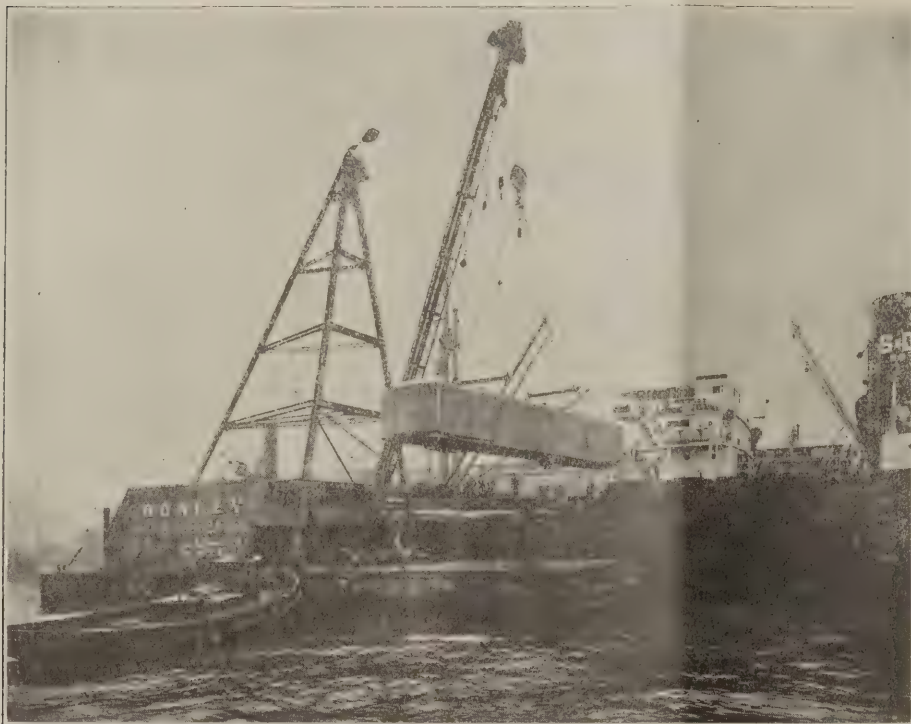
lowing the Marin County shore has a minimum depth of 54 feet at low tide and is 2,000 feet wide; the Central and South channels have minimum depths of 36 feet and 35 feet respectively at low tide.

It was not until after the American occupation and the “rush for gold” in 1849 that any development took place. With the discovery of gold, the Port of San Francisco became the rendezvous of ships from every quarter of the globe. Municipal Government having been established, the city assumed control and undertook the development of the Port by leasing or granting to private individuals and companies, dock and wharf privileges. These private companies built numerous wharves. The rush to the gold mines had become unprecedented; sturdy pioneers and adventurers poured into the state from all over the world; some came overland—most came by sea, but all supplies of every character came by ship and the Port of San Francisco became at once the commercial center and distributing point for California and the entire Pacific Coast—a position it has steadfastly held ever since.



Typical piers on San Francisco's Waterfront

R. J. Waters & Co.



Floating derrick boom, capacity 75 tons

With all manner of supplies, even including building stone and building materials coming through the Port, the wharves were offered more freight than they could conveniently handle, and port tolls and wharfage charges consequently became exorbitant. But the huge profits from tolls and wharfage charges did not accrue to the benefit of the Port or the City; these went into the pockets of the private individuals and corporations operating the wharves. In the early sixties most of the wharf franchises expired. These private interests, greedy for profits had made no provision for upkeep or replacements. The wharves had deteriorated and required rebuilding and in addition, the people of the city were demanding the building of the seawall and the reclaiming of the tide lands. All the profits of the Port having gone to the private wharf companies, the city had no funds with which to do this work and the private companies, before they would undertake the work, demanded long-term exclusive franchises that would have given them a monopoly of the waterfront. This the City was unwilling to do and in desperation appealed to the State to take over the waterfront and develop it for them. In April, 1863, the State Legislature passed an act creating a Board of State Harbor Commissioners consisting of three members appointed by the Governor to take over and administer the waterfront of San Francisco, and since that time the Port has been developed, controlled and operated by that body.

The development and financial man-

agement of the Port of San Francisco is a record of efficiency seldom if ever equalled by a public utility either privately or publicly owned. From the time when the State took over the management, the Port has been made to pay its own way. No tax—state, city or county—has ever been levied for the Port's development, upkeep or operation, and it has never received a cent from either the state, city or county, with the exception of \$100,000 appropriated by the legislature for immediate repairs following the disaster of 1906.

It is true the State has loaned its credit and voted bonds for the development of the Port. During the past seventeen years the State has voted \$22,000,000 in bonds for the development of this Port but all interest and redemption charges are paid for out of the revenues of the Port. During the last two years when every great port in the world suffered a decrease in business, when every other port on the Pacific Coast showed a deficit in its operation, the Port of San Francisco, with the lowest port charges in the country, retired one-quarter million dollars worth of bonds, paid all its interest, upkeep and operating charges, and in addition made a surplus of \$1,245,000. This surplus does not go into the general fund of the state, but is used exclusively for harbor development.

At present the state-owned property is conservatively valued at \$50,000,000. We have 40 modern piers, mostly of reinforced concrete construction, ranging from 800 to 1,100 feet in length by 150 to 200 feet in width, with a total cargo area in excess of 5,000,000 square feet and with 15 miles of berthing space, or sufficient to berth at one time, 250 vessels of the average size entering the Port. Most of these piers have a depth of water alongside of 40 feet or more at low tide, sufficient to accommodate any ship afloat.

In 1889 the State Legislature authorized the Board of Harbor Commissioners to construct and operate a Belt Railroad to connect the piers and industries along the waterfront with the various railroads reaching San Francisco Bay. This state-owned Belt



Vegetable oil tank storage and loading racks

Railroad started as a little three-rail double-track road to accommodate both switching service any hour of the day or night, so that freight may be routed over any railroad and consigned to any pier, steamship or indus-



The Golden Gate City, looking across to the Berkeley hills

Ewing Galloway

standard and narrow gauge cars. At first it was permitted to operate only between the hours of 10 P. M. and 6 A. M. To-day we have 54 miles of standard gauge track connecting every railroad that reaches San Francisco Bay with every pier by one or more spur tracks, running the full length of the side of the pier and by spur with every industry along the waterfront of San Francisco. We have eight modern heavy switching locomotives which give a continuous



Fisherman's Basin, Port of San Francisco

try on the waterfront of San Francisco for a single switching charge.

The State built, owns and operates the Ferry Building, a union depot and passenger terminal which affords facilities on an equality of terms to every railroad and ferry company entering San Francisco. Through this building last year passed 51,000,000 passengers and though this number greatly exceeds that of any other passenger terminal in this country, if not in



Superdreadnaught California in Hunter's Point Dry Dock

the world, traffic experts agree that the crowds are handled with less congestion and confusion than in any other large depot in the United States.

At Islais Creek the State has built and now operates a plant for the handling, storing, bulking, etc., of all kinds of vegetable oils—which is recognized by oil men generally as the most modern and efficient plant for its purpose in the country.

At China Basin the Harbor Commissioners have now under construction a great wharf and Warehouse Terminal known as the China Basin Terminal. This facility will consist of a wharf nearly 1,000 feet in length with 37 feet of water alongside at low tide and a 6-story warehouse 820 feet long by 125 feet wide, containing over 500,000 square feet of storage area. The entire structure, both wharf and building will be of reinforced concrete construction and will be equipped with every modern device of proven efficiency for the economical handling of cargo, such as semi-portal and roof cranes, elevators, chutes, electric tractors and conveyors, etc. Belt Railroad spurs will serve the terminal, there being one spur the full length of the wharf in front of the warehouse and three spurs in the rear of the building. Entrance to the ground floor for trucks and teams is provided at either end of the building. In the rear of the building a ramp leading from The Embarcadero on a 4.75 per cent grade, carries the trucks and vehicular traffic above the railroad tracks and gives access to the second floor.

Stevedoring and handling of cargo in the Port of San Francisco is cared for by private stevedoring companies.

In some cases the steamship companies do their own stevedoring. Because of the keen competition, rates are kept at a very low minimum.

The Port of San Francisco is well supplied with mechanical equipment for the economical handling of cargo: Electric tractors and belt conveyors, gravity roller conveyors, electric cranes, locomotive cranes, stackers and elevators, and huge floating derricks handle all manner of cargo—from a ten-pound package of prunes to a 100-ton railway locomotive.

Manufacturers, exporters and importers are just beginning to recognize the importance of the Port of San Francisco. In Northern and Central California directly tributary to the Port lie 15,500,000 acres of the most fertile land in all the world and which to-day produce three-fourths of all the products of the State, including agricultural, dairy, forest and mineral, the value of which is in excess of one billion dollars.

Facing us on the Pacific, live three-fifths of the world's population, or 900,000,000 persons who are potential customers and traders through the Port.

Five great trunk line railroads connect the Port with every industrial and agricultural section of America. The Port's central location on the west coast of North America places it on the shortest direct route between Europe, the Atlantic seaboard and the Orient, and practically all vessels plying between these countries stop at the Port of San Francisco to deliver and receive cargo and take on supplies.

Last year the Port of San Francisco handled more tonnage over its

wharves than any other two ports on the Pacific Coast, and almost as much tonnage as all the other Pacific Coast ports combined.

The Panama Canal has been of inestimable value to the Port. Twenty steamship lines operate from San Francisco, through the Canal to the Atlantic Seaboard, the United Kingdom and Europe. Regular schedules of from 18 to 22 days sailing time are maintained between San Francisco and Baltimore, New York and Boston, with a frequency that gives us a sailing nearly every day of the week. The cargo carried in this service is increasing in volume by leaps and bounds, and in addition to the low freight rates offered has been the salvation of the State in shipping her products out and getting supplies in during the railroad tie-up of the past summer.

The success in development and management of the Port of San Francisco is probably best expressed in the one word, "Coöperation." Not only has there been coöperation within the organization but the Port has had the earnest coöperation of every interest using the Port. A number of years ago the Board of State Harbor Commissioners appointed an advisory committee of twenty members representing all the various interests having dealings with the Port. This Committee has been consulted in all matters of policy, port charges and development, and it is not an exaggeration to say that to-day the present Port management has the wholehearted coöperation and one hundred per cent endorsement of shipping men and business men—exporters and importers, in fact all who in any way come in contact or have business with the Port.

TO OPEN UP COAL MINES

Important recommendations affecting the bituminous coal mining industry are made by Director Bain of the Bureau of Mines in his annual report. He suggests that authority be obtained from the Interstate Commerce Commission to open new mines, public convenience and necessity being shown by the operator, on the ground that as the commission has supervision over railways it should have some say as to increasing the transportation facilities. He believes that opening of unneeded mines should be stopped for a while or at least the rate of opening decreased so as to adjust mine capacity to current needs.

He recommends storage of coal by the consumer or some distributing agency operating between him and the mines. He advocates storage of large quantities of coal in the ground at mines and other storage.

What To Do About Our Shipping

Suggestion is offered that all the government ships should be sold off to the companies most able to operate them and that a small, experienced commission should succeed the Shipping Board

Written especially for AMERICAN INDUSTRIES

By ROBERT M. NELSON

A MULTITUDE of suggestions has been made recently regarding the problem of the American Merchant Marine, but apparently no satisfactory solution has yet been found. Governmental operation of our vessels, with its colossal deficits, has proved an expensive failure. Private ownership and operation is imperative. The only question, to my mind, is how to effect the transfer in such a way as will prove satisfactory to the American people who now own the vast tonnage.

When a business corporation finds a white elephant on its hands, it gets rid of it as quickly as possible, and for such consideration as it will bring. "The Great White Elephant" of the American people should be disposed of along similar lines. Here is a suggestion as to how it should be done.

Let the Government prepare a catalog giving photographic reproduction and full description of each and every merchant vessel owned by it, and where located. Copies of the catalog should be sent to every reputable American shipping concern, accompanied by a blank application to be filled out, sworn to and returned to the Government. This application should require a history of the shipping company, certified balance sheets and income statements for the past five years, a description of its present floating equipment and the service in which it is being used; and a statement of the amount and character of additional tonnage it could use and the service into which it would be placed. Applications should also designate from the catalog the particular vessels which in their judgment would be most suitable for the contemplated service, with reasons therefor.

The purpose of the application would be to give such information in convenient form as will enable the Government to determine the financial responsibility and operating ability of each company to carry out its part of the program, and other questions would undoubtedly be necessary to accomplish this purpose. The list of questions should be prepared by a small committee of able, experienced

shipping men, such men to be appointed solely on account of their qualifications—not because of their political affiliations.

This committee should analyze all



Robert M. Nelson

of the trade routes of the world, both freight and passenger, much the same as a sales manager analyzes his territory. Due note should be made of all competition, the cost of foreign bottoms and operating expenses thereof; the heavy and light seasons, and all other data necessary to determine what American tonnage and what companies could operate to the best advantage over each route, and what shifting of service would be necessary on account of seasons.

After considering all of the applications and other data, the committee should recommend the distribution of vessels on such a basis as will coincide as nearly as possible with the plans and requirements of each company, due regard being given to competition and other conditions. Each company must agree, however, to operate all the tonnage received in the service stated in the application, and it might be desirable to specify a minimum period during which such service must be maintained. A provision could also be inserted that, upon petition during such period, this provision could be waived by the Government if it were shown that conditions in a particular service had changed very

materially and that the tonnage would be used over other routes, such routes being specified.

Instead of granting "subsidies" in the form of cash, the Government should sell the tonnage at a low price, and in naming prices, due regard should be given to the financial condition and backing of each company, but endeavoring so far as possible to sell at such prices and on such terms as will be fair to all applicants. The Government could afford to sell on a partial payment plan, with a very low rate of interest on deferred payments, or, considering what the American Merchant Marine is costing taxpayers, it could sell all of its tonnage to advantage without charging any interest whatever on deferred payments. All vessels of every description, however, must be taken over by the companies and operated by them, except, of course, such vessels as could not be put into seaworthy condition at a reasonable expense. Tonnage of the latter description should be sold as scrap or disposed of in some way to eliminate all further expense on the part of the Government.

So far as passenger service is concerned, the prohibition question is at present inextricably involved with the problem of our American Merchant Marine. With ownership of such tonnage transferred to private control, the Government will be relieved of its present embarrassing situation. Then it can more gracefully rule that outside of the three-mile limit, high grade liquid refreshments can be served on privately-owned American vessels the same as on vessels of foreign registry. Neither the "Eighteenth Commandment" nor the "Volstead Tragedy" directly prohibit the sale of "bottled-ware" on American vessels outside the three-mile limit, and if the Executive and Legislative bodies of the Government are as excited over the success of our marine adventure as is reported, competitive conditions should be regarded in the light of reason and plain business judgment.

We should ring down the curtain on all other legislative comedies unnecessarily restricting and hampering the shipping business, including principally that comedy called the "La Fol-

lette Seaman Act." All vessels should be properly manned, but this act imposes an unnecessary burden upon American shipping men that makes competition almost a joke. Let's repeal that law and enact something sane and more business-like. In fact, all laws affecting the ability of American shipping to compete with foreign should undergo a thorough overhauling, and the framing of new statutes should be done with the aid of experienced shipping men; if no such renovation of law is effected, there is no inducement to investors, nor inspiration to builders of maritime commerce, to risk their money and to waste their energies. Capital and brains will go

into other lines of business where dividends are safer and due recognition for achievement will be received. We cannot merely shout about "Old Glory" and the seas, and expect arousal of interest on the part of keen, red-blooded American business men. Something has got to be done constructively to put the proposition on an economically sound basis.

The closing act of the drama should consist of prompt abolition of the U. S. Shipping Board and of all other boards, corporations, committees, etc., now connected with Government operation or supervision of shipping. In its place should be established a

new committee, consisting of a few experienced shipping men, to be given such powers as may be necessary to handle business problems among the various shipping companies as may arise in the future, but mainly as an advisory board. This committee would have a small, well-trained staff of statisticians to gather and analyze the proper data, and the members of the committee would use such information in a practical way towards coöperation with the various companies. From that point on, let us rely upon private American skill and ingenuity to carry our flag into all commercial parts of the world.

Educating In Our Industry

A ROMANCE of education for and in industry that can carry a lesson to nearly every American business center or industrial interest has been going on in Pittsburgh in recent years, and is to-day unfolding in a startling way.

It is built upon the foreseeing genius of the great industrialist, Andrew Carnegie, and centers in the night work of the Carnegie Institute of Technology—an institution which, in effect, has become a great university for industry and the arts, functioning in the center of one of the world's foremost industrial regions.

The romance is in the knitting into one close practical texture of the educational and the industrial elements of an entire district, in a way directly and often amazingly vivifying the life of almost every natural resource, converting and manufacturing business that can be named. Ultimately, it will result, according to Dr. Thomas Stockham Baker, Acting President of the Institute, in the maintaining in Pittsburgh of the world's greatest research laboratories.

Stated elementally, workers of Pittsburgh—skilled and unskilled—have the fortunate, but by no means singly exceptional opportunity of obtaining additional technical training at a great college. There are other American cities where the same thing holds true. But upon this elemental, fortunate circumstance, a system of night education in, and for industry, has been built that touches practically every phase of industrial life. The effects of this system are to-day apparent from shop girl to chief engineer in hundreds of cases.

In terms of the human equation, its results are that, through the medium of the Night Courses at the Institute, hundreds of ambitious youths each

year are started on the road to increased earning power, and, in many cases, toward executive positions in their particular fields. But the outstanding feature is that many of its students go beyond the minor executive positions and become prominent business men, engineers, and professional experts. Its accepted value for this reason, to industry in the Pittsburgh district, is reflected in the regular annual action of many companies in encouraging both their younger and their college trained employees to enroll, and, often these students are assisted financially by their employers. The technical level of proficiency in the Pittsburgh district to-day, on the authority of Dr. Baker, is traceable directly and singly, in many cases, to some one man or group of men in high positions who have obtained their training in the Technology Night Classes.

One of the high spots of the Night Courses is their flexibility. No matter how limited may be the previous education of a young workman, he can get a start. If he wishes a general technical training in any field he can get it. If he wants to specialize, he can do so. Special short courses are given to students seeking training in some one subject. On the other hand, a student can earn his collegiate degree in various fields in these same night courses. High school graduates are particularly interested in this opportunity, and a large number has already been graduated with bachelor degrees in various important engineering night courses, and have immediately advanced to more effective employment in their various specialized fields with a resulting increased stimulus to Pittsburgh industry as a whole.

Still another source of students, almost unknown elsewhere in technical

night courses, is the college graduate. Various advanced classes in engineering fields and chemistry, and other branches of science are organized each year to accommodate college graduates desiring additional training. These students often combine the practical problems of their daily work with the practical and theoretical work of the night courses to the individual advantage of their employing companies and, not infrequently, of a whole industry.

COWS AND OKLAHOMA

A recent map of Oklahoma indicating by marks of various shapes the location of cream stations, ice cream factories, creameries, pasteurizing plants, shows the dairy cow now as a big factor in the prosperity of the state. Formerly, on account of the cattle tick, such a development of dairying was impossible, but the anti-tick activities of the state and the United States Department of Agriculture for the past six or seven years have resulted in the eradication of the pest from 43,255 square miles, or about 90 per cent of the infested territory.

As a result of these strides in eradication the figures on dairy production show large totals, and in 1921 milk and butter were important products. During that year 9,939,895 pounds of butter fat in the form of sour cream was produced, selling for a little more than \$4,000,000 and 9,529,722 pounds of butter, valued at \$3,240,000. More than 10,000,000 pounds of sweet milk was bought for making ice cream. Pasteurizing plants reported handling 62,261,983 pounds of milk. The figures are from reports received from twenty-six creameries, forty-four ice cream plants, and thirty combination plants operating in Oklahoma or just outside its borders.

Lack Of Economic Intelligence

Manufacturer who has offered prizes to develop economic study in public, vocational and trade schools, believes dearth of such knowledge has endangered the nation's general welfare many times

By ALVAN T. SIMONDS

President, Simonds Saw and Steel Company

A COMPARATIVELY small percentage of the people of the United States make mistakes and do wrong consciously, aware that they are doing so. A very much larger percentage make mistakes and do wrong through ignorance, though acting with the best intentions.

The above is not written with the Volstead Act in mind, but the reaction of people to this law illustrates the point. Many violate this law knowing they are doing wrong, but find such violation an easy way to make money, or a necessity to satisfy their appetites. Many others violate the law knowingly, but with a confident belief that such a law is best observed by breaking it. The greater part, however, of those who break the law do so because ignorant of the real results of such violation.

Doubtless, as the supporters of the law claim, nearly all if not all of these law breakers are moved to act as they do from selfish motives rather than from any deep seated desire to preserve individual liberty from unwarranted restrictions. Few people make mistakes, or do wrong against their selfish interests except through ignorance. We need worry little about disregard for law on the part of the people of the United States when the law expresses the conscience and the will of the people.

When the new Worcester, Mass., County Court House was building some years ago, the plans showed a legend in large letters across the front of the building and over the outside entrance. It read, Obedience to Law is Liberty. The legend is conspicuously displayed in court houses everywhere in America.

When George F. Hoar who was then U. S. Senator from Massachusetts, returned to his home in Worcester, for a short vacation from his duties in Washington, he was shown the plans and asked if he did not like the bold legend across the front.

He replied, that to his mind disobedience to law was at times the only way to secure liberty, and that some of his ancestors acted on this belief when they

dumped the tea into Boston Harbor. Senator Hoar was then asked to write a legend to be placed over the inner entrance doors of the court house, and he gave them the following. "Here



Alvan T. Simonds

speakeeth the conscience of the people, restraining individual will." Both legends are in place in the Worcester Court House.

The United States has little to fear from lawlessness when the laws express the conscience of the entire people, or of the great majority of the people. But people lacking intelligence, ignorant people, have a conscience and a will and these are often expressed in law and enforced with more vigor than by the intelligent for the more we know the less certain, dogmatic and arbitrary do we become. An intelligent conscience and an intelligent will are peculiarly necessary in a democracy.

The people of the United States have realized the necessity for an intelligent electorate, and have encouraged and supported education everywhere and at all times. Yet in some fields we are very ignorant compared with other peoples. In art we are children as compared with the French, or even the Japanese; in music, we are still far behind the Italians; and in government we trail the English.

Our education, while possibly it is what American educators claim it to be, the best in the world, is still far from efficient either in what it teaches, or how it teaches. Therefore, the conscience and the will of the American people is still unenlightened in many fields, and the laws expressing this conscience and this will are often unwise and at time injurious, if not dangerous, to the general welfare. This is strikingly true in the laws affecting business, including agriculture, mining, manufacturing and distribution, and in those dealing with taxation. The American people are still learning by the old, inefficient and costly method of trial and error instead of by the method of science which collects and classifies data and from these derives general laws by which it is able to predict future events in the field with which it deals.

The American people have not done this in the field of business notwithstanding the fact that business supports them all and provides for their education, their art, their music, their recreation and even their religion. A very small minority has seen the importance of such a knowledge, or science, and of its conclusions being generally understood, respected and acted upon. But even among intelligent business men, the number has been altogether too small. The schools, outside college classes and a few high schools have not even seemed to know that such a science existed. One commissioner of education of a great State declares, by implication at least, that all such school instruction is and would be propaganda for selfish interests.

But business men and labor men are awakening to the situation. The Bureau of Economic Research is backed by all classes and all factions, and is as rapidly as possible collecting facts and data upon which all agree. Many organizations to advance economic knowledge are being formed. Not all the educators are asleep. In greater New York, every high school student is required to study economics in the senior year. The leaders of the National Education Association and of associa-

tions in the Middle West, are aware of the great gap left in the education of our youth. The same is true, we understand, of the Pacific Coast. Perhaps the effete East will wake up before long. The Harvard Bureau of Economic Research, Babson's and Brookmire are convincing the business men; and such organizations as the Taylor Society are demonstrating practical results in the business field.

For many years I have been interested in this movement and in helping to advance it. No single individual can do much, but every one counts; and when the number is large enough, the movement finally becomes irresistible.

While education can do much for the adult it is most effective with youth and with the instructors of youth. Therefore, I have focussed my efforts to introduce the study of economics upon high schools, including vocational and trade schools of secondary grade, and normal schools.

In the Fall of 1920, I offered two prizes of \$1,000 and \$500 to be awarded in 1921, for the best essays upon "Present Economic Conditions." The contest was open to pupils in the schools named above. I wished to get information in particular about two matters:

(a) How generally economics was taught in secondary public schools and in normal schools.

(b) How far such teaching was enabling pupils to foresee the depression which was then just coming upon us.

The results showed that economics was given little place in American education. No one of the essays indicated that economic conditions in 1920 were leading us into some of the hardest times that American business has ever known. In fact none of the essays conveyed the idea that the science of economics could predict, or that it was anything but theory dealing with the past.

A few weeks ago, I announced the contest for 1923, on the subject—"The lack of economic intelligence and some of the injuries it has caused to individual and general welfare in the United States since 1860." The prizes are \$1,000 and \$500 for the two best essays, and the contest is open to high schools, including secondary vocational and trade schools, and to normal school pupils. Details can be obtained by writing to the Contest Editor, 478 Main St., Fitchburg, Mass.

The subject is chosen in the belief that it will turn the attention of these students, and their instructors to particulars and to real events instead of to general theory that deals only with abstractions.

The lack of economic intelligence has certainly endangered the general welfare in the United States many times since the Civil War. We have escaped the danger at times not by becoming more intelligent, but by luck, or fortuitous happenings. Who can say that the Free Silver danger was permanently overthrown by the intelligence of the voters of the United States, rather than by the unexpected but timely increase in the world's production of gold?

Since the Civil War, the Democratic party has a few times come into control of the national government, just as hard times were upon us and the party has been promptly rebuked for supposedly bringing them on by the loss of the next election. In 1920, the Republican party won the national election, just as the depression of 1921 was about to break. Following the established custom of the voters of the United States, the party has been properly rebuked for bringing these hard times upon the people.

Since the Civil War, on an average, two years out of every five have been hard times. Hard times, revival, boom, decline, the cycle from hard times to hard times, has taken not less than five years and not over seven. Most of the people of the United States are as ignorant of the simple facts I have just stated, as they are of the causes of the cycles and of what part their actions play in causing them, in helping on

the good times and in bringing on the bad.

The teachers of the country are not educated to give the proper instruction, the ministers do not give it from the pulpits, the law makers still believe laws can overcome economic forces and that general prosperity can be made by law, and the large majority of business men are still uninformed. The business men, however, are awake to their need of knowledge along this line, and the lack will soon be made good. Someone ought to devise a way to secure greater economic intelligence on the part of the ministers. As I am asking for this on the part of all the people, no minister need take offense at this suggestion. Let me give this hint, however, the mind must be free from emotion when seeking scientific truth, or at least from all emotion except the joy that comes from seeking and finding the truth.

I am afraid we cannot improve the economic intelligence of our law makers until that of the people who elect them is greater.

The world needs economic wisdom to-day more than anything else. An economic genius, master also of the practical affairs of life, could bring as much happiness to the world in the next decade as the Kaiser brought misery in the last. A general increase in economic intelligence, on the part of all the people, will help assure prosperity and happiness in all the future.

Federated Near East Chamber

The formation of the Federated American Chambers of Commerce of the Near East has been announced, with offices in New York. This Federation is composed of the American Chamber of Commerce for the Levant with headquarters at Constantinople, the American Chamber of Commerce in Greece with headquarters at Athens, and the American Chamber of Commerce of Egypt with headquarters at Alexandria. The purpose of the organization is to encourage trade and commerce between the United States and the countries of the Near East, including Turkey, Greece, Egypt, Bulgaria, Rumania, Jugo-Slavia, Mesopotamia, Syria, Palestine and Persia. The organization already has offices at Constantinople, Athens and Alexandria, and is prepared to furnish trade information to exporters and manufacturers and to facilitate the development of trade, which it is felt will immediately develop following the conference at Lausanne.

The officers of the Federated American Chambers of Commerce of the Near East are: President Lucien Irving Thomas, Standard Oil Co. of New York; Chairman of the Board, James M. Dixon, of the Tobacco Products Company; Vice-President, J. F. Lucey, of the Lucey Manufacturing Corporation; Treasurer, Neal Dow Becker, of the Hammond Typewriter Company; Secretary, E. E. Pratt, formerly Chief of the Bureau of Foreign and Domestic Commerce of the Department of Commerce.

Among the directors are Chester S. Allen, of Lockwood, Greene & Co.; Ernest Bull, of A. H. Bull & Co.; Ernest G. Draper, of the Hills Bros. Co.; Philip de Ronde, of the Oriental Navigation Co.; W. N. Enstrom, of the Irving National Bank; Ernest B. Filsinger, of Lawrence & Co.; Donald Frothingham, of the American Express Co.; Antony L. Geyelin, of Messrs. Geyelin & Co.; A. H. Holliday, of the Jones & Laughlin Steel Co., and E. O. Horner.

Research As Aid To The Industry

Second Annual Meeting of the Copper and Brass Research Association brings out the important part played by the organization in increased consumption of the metals—officers elected

AT the second annual meeting of the members of the Copper and Brass Research Association, the following were elected directors to serve for the ensuing year, the first eight mentioned comprising the Executive Committee:

R. L. Agassiz, President, Calumet & Hecla Mining Co.; Walter Douglas, President, Phelps Dodge Corporation; C. F. Kelley, President, Anaconda Copper Mining Co.; Stephen Birch, President, Kennecott Copper Corporation; Chas. Hayden, Vice-President, Chino, Utah, Nevada Ray Companies; F. S. Chase, President, Chase Rolling Mills; Edw. H. Binns, President, C. G. Hussey & Co.; H. J. Rowland, Sales Manager, Rome Brass & Copper Co.; J. W. Allen, Treasurer, Green Cananea Copper Co.; Henry F. Bassett, President, Taunton-New Bedford Copper Co.; H. C. Bellinger, Vice-President, Chile Exploration Co.; F. H. Brownell, Vice-President, American Smelting & Refining Co.; J. Parke Channing, Vice-President, Miami Copper Co.; Carl F. Dietz, President, Bridgeport Brass Co.; B. Goldsmith, President, National Brass & Copper Co.; E. O. Goss, President, Scovill Mfg. Co.; Robert H. Gross, President, the East Butte Copper Mining Co.; U. T. Hungerford, President, U. T. Hungerford Brass & Copper Co.; C. V. Jenkins, Treasurer, Utah, Chino, Ray Nevada Companies; H. B. Paul, Auditor, Calumet & Arizona Mining Co.; R. M. Raymond, Director, United Verde Extension Mining Co.; A. E. Seelig, Manager, Michigan Copper & Brass Co.; W. Parsons Todd, Manager, Sales, Copper Range Co.

The Directors, at an organization meeting elected the following officers:

President, R. L. Agassiz; Vice-Presidents, C. F. Kelley, F. S. Chase, E. J. Rowland, Walter Douglas and U. T. Hungerford; Treasurer, Stephen Birch; Secretary, G. A. Sloan; and Manager, William A. Willis.

In connection with the conclusion of the first full year of the Association's activity as an unincorporated, voluntary organization of the Brass and Copper industries Mr. Agassiz, President of the Copper and Brass Research Association, said:

"The research and educational work of the Copper and Brass Research As-

sociation has played an important part in the rapid growth of consumption of brass and copper during the past year—for, despite uncertain business conditions, copper consumption in this country is now substantially greater than in pre-war years. Having digested an unprecedented quantity of wartime scrap metal, the industry is now in a strong position.

"The underlying purpose of this whole effort is to develop to the maximum the domestic consumption of the metal. Export trade will always be a large factor, but it will be possible, we believe, to so augment the American use of the metals that the varying industrial pulse of Europe will be much less influential in determining the prosperity of the industry.

"In this connection, it is interesting to note that while the 1922 consumption of copper and brass in the building industry in this country was about 150,000,000 pounds (an increase of over 100,000,000 pounds as compared with 1921), yet, the potential market for copper and brass in the building industry is placed at approximately 650,000,000 pounds annually.

"The constantly growing domestic use of brass, which is only next to the electrical industry as a consumer of copper, is another helpful factor.

"The electrical industry, where the physical properties of copper are indispensable, is in reality only in its infancy. The high cost of fuel, with uncertain and expensive transportation, are responsible for the growing use of electric power generated at central points, distribution over wide areas being possible economically because of copper's high conductivity.

"Our plan is to provide through the instrumentality of the Copper and Brass Research Association a technical and advisory service which may be freely called upon by users of our metals—a service which no one copper or brass producer or manufacturer could reasonably be expected to undertake alone. Already, wide use is being made of these facilities. Information has been furnished on the use of copper and brass for almost every conceivable subject, from safety pins to locomotive boiler tubes.

"An important accomplishment has been the fact that many of the more

than 2,000 manufacturers who produce articles made of brass or copper have taken advantage of the Association's activity to individually advertise their products, thus extending the Association's own educational work.

"The Association has found a ready response all over the country to its campaign directed toward eliminating waste in industry and in the home by the use of non-corrodible metal, a waste the size of which was demonstrated by a survey conducted by the Association, showing that rusted metal in homes alone costs home-owners more than \$600,000,000 annually—about five or six times as much as the fire loss."

The following are now members of the Copper and Brass Research Association: American Smelting & Refining Co., Anaconda Copper Mining Co., Arizona Commercial Mining Co., Braden Copper Co., Bridgeport Brass Co., Calumet & Arizona Mining Co., Calumet & Hecla Mining Co., Chile Exploration Co., Chino Copper Co., Chase Rolling Mills, Chase Metal Works, Copper Range Co., Engles Copper Co., East (The) Butte Copper Mining Co., Greene Cananea Copper Co., Hungerford (U. T.) Brass & Copper Co., Hussey (C. G.) & Co., Inspiration Cons. Copper Co., Kennecott Copper Corporation, Michigan Copper & Brass Co., Miami Copper Co., Mother Lode Coalition Mines Co., National (The) Brass & Copper Co., Nevada Consolidated Copper Co., New Cew Cornelia Copper Co., New England Brass Co., North Butte Mining Co., Old Dominion Co., Phelps Dodge Corporation, Ray Consolidated Copper Co., Rome Brass & Copper Co., Scovill Mfg. Co., Shettuck Arizona Copper Co., Taunton-New Bedford Copper Co., United Verde Exten. Mining Co., Utah Copper Co., and Utah Consolidated Mining Co.

The following officers of the Pennsylvania and Atlantic Seaboard Hardware Association, have just been elected: President, Hugh F. McKnight, Pittsburgh; Vice-Presidents, B. Frank Antrim, Camden, N. J., John A. Ditz, Clarion, Pa., and Robert Murray, Honesdale, Pa.; Secretary, Sharon E. Jones, Pittsburgh; and Treasurer, Chas. W. Scarborough, Pittsburgh.

Before The Immigration Committee

FOURTEEN representatives of as many great industries of the country appeared before the Senate Immigration Committee February 20 and demonstrated specifically a shortage of labor in some of the great producing states. This action was in earnest support of the Colt immigration bill which provides mainly that the immigration quota be figured on the net instead of on the inflexible three per cent, and also that the Secretary of Labor be given power to permit the admission of immigrants in excess of the quota, when such necessity is made clear to him, to meet certain industrial requirements.

James A. Emery, general counsel of the National Association of Manufacturers, headed the group of manufacturers. He showed the committee that the emergency urge was backed by thirty-seven national organizations and associations. He said the manufacturers were not opposed to restriction, but did not believe in prohibition of immigration. He declared the manufacturers did not maintain that there was a general shortage of labor, but that there was a decided shortage in certain industries, which threatened industry as a whole, and it was to meet this situation that the present measure was drawn and urged.

Mr. Emery made it clear that the United States was dependent in continuing reliance on foreign labor for development; that up to 1919 the average net immigration had grown to something more than 925,000 a year; but that the war reduced immigration to a minimum and we had had only one year of considerable immigration since. The inevitable result was a drain on our industries that could not be supplied from native channels and had not been met through those channels in many years. Our net immigration in 1920-1921, the first year of the operation of the present law, was only 6,158 male persons, and the growth of our industries had been out of all proportion to such net immigration. Mr. Emery pointed out the great need of common labor to perform the necessary primary operations before the main industry can proceed, and impressed on the committee the fact that if the rough labor is not available then there must be a general backing up and slowing down of production.

To show in specific instances how immigration restriction is affecting industry, there were present: R. M. Welch, Youngstown Sheet & Tube

Co., Youngstown, O.; Frank W. Noxon, Railway Business Association, Philadelphia; W. S. Hays, National Slate Association, Philadelphia; R. C. Marshall, Jr., General Manager, Associated General Contractors, Washington; A. E. McClintock, Commissioner, National Founders' Association, Chicago; Wilson Compton, National Lumber Manufacturers' Association, Washington; R. Van Metre, Joyce Watkins Co., Chicago; Thomas Hoope, Connecticut Foundrymen's Association, Middletown, Conn.; Geo. L. Markland, American Gear Manufacturers' Association, Philadelphia; Harry G. Uhl, National Lumber Manufacturers' Association, Washington; Paul V. Keyser, Investment Bankers' Association, Washington; Thomas Nelson, Rising & Nelson Slate Co., Philadelphia; C. L. Patterson, National Association Sheet & Tin Plate Manufacturers, Pittsburgh; and H. S. Cleverdon, National Slate Association, Philadelphia.

Gray Silver, of the American Farm Bureau Federation, presented a resolution outlining the policy of the farm bureau, substantially in accord with the Colt bill.

Mr. Marshall told the committee there was an actual labor shortage in the construction industry; that there would be a need for 300,000 more men than they were going to have this spring. He said the industries did a business last year amounting to between \$5,000,000,000 and \$6,000,000,000, and that it promised to go ahead of that figure if they could obtain a sufficient labor supply. He said the situation faced was appalling; and that last fall the contractors had been forced into the necessity of robbing one another for their help.

Senator Colt, chairman of the committee, asked if construction was held back because of inability to get labor. Mr. Marshall stated that was true; that he had recently come from Los Angeles where three hundred contractors said they did not see how their ambitious program for the spring could be carried out. Mr. Marshall showed how the supply had been held down in certain crafts, as the plasterers, for instance, who in 1910 had 14 apprentices to the thousand; but in 1920 had cut them down to 10.4 per thousand. He said according to the normal development there should be to-day 34 to the thousand.

Mr. Welch said there was a shortage of common labor not only in his

particular mills but in the section. This was reflected in the labor above common. He said they did not have sufficient men and would be compelled to retard production unless the labor was forthcoming; they could not ask their men to step back into a previous status.

Mr. Patterson said the sheet and tin plate industry had now 668 hot mills; that they employed last November 53,200 men and that they needed 2,700 more men to keep up with present orders. They could run full capacity for a year but would have to have 10,000 more men to do so.

Mr. McClintock said there were 700 founders in his association and that the industry called for 75 per cent rough labor and 25 per cent skilled or semi-skilled. They were operating only 65 per cent of tonnage capacity. He said telegrams had been received from twenty points recently, stating that while some of them had sufficient men at present many were short and more would be short as soon as the men went to outdoor work.

Mr. Hays showed that in the slate industry, while they had 80,000 men at rough work in 1910, the number had been reduced to 40,000 in 1920. Many of their old men had drifted into other industries where pay was higher and living more attractive in milder climates.

Mr. Noxon said there was a shortage in the railway business. He said replies to a questionnaire had developed a shortage of 31,000 men and if the same ratio were applied to all the members of the association there would be a shortage of 255,000 men. This condition prevailed during winter and undoubtedly there would be need for 300,000 men in the spring.

F. H. Kincutt, representing the Immigration Restriction League, appeared in rebuttal of the claims of the manufacturers. He favored further restriction and tried to show that there was no such shortage as claimed. He made several bitter statements against certain types of immigrants, which prompted Senator Colt to say that it would be too bad to permit the committee to be swayed by prejudice instead of fact; that it was dangerous to discuss the situation in terms of a superior people; but that the problem should be considered with equal justice to all.

Common Labor Growing Uncommon

Increased demands of developing industries, higher standards of living, new industries and positions, have dipped heavily into the steadily decreasing supply of the unskilled labor ranks

Written especially for AMERICAN INDUSTRIES

By W. S. HAYS

Secretary, National Slate Association

WHERE is my wandering laborer to-night? Is he a chauffeur, a clerk, working in a radio, aeroplane or an automobile plant or one of those new industries stimulated by that great industry? Such are the queries of many employers who are seeking to fill the gap in their organizations formerly filled by the so-called common laborer. As one slate producer put it before the Senate Committee on Immigration, "We have only two men left we could call common laborers. And none have come to the quarries since 1914. The present immigration laws do not attract or bring into this country the men who are ready to take up the shovel in our quarries, the hoe on the farm or the wheelbarrow in the steel mills, and similar manual labor jobs.

We hear of the shortage of certain skilled trades but this can be met and is being met constructively in many localities and industries. Progressive employers and labor leaders realize it is their responsibility to attract boys into the trades, guarantee them steady employment and see that they are properly trained so that at the end of the indenture period the boy comes out as a fully qualified craftsman. The helpers class, or men between the ages of 21 and 28, learn trades quickly and should not be overlooked in any training program.

But the census figures of 1920 as compared to 1910 are interesting barometers of our growth and development. In that decade new industries have sprung into major proportions. As such they are requiring many men formerly available for unskilled labor work. Other industries like cement, paint and varnish, chemicals and allied industries, are coöperatively developing their potential markets, thereby constantly requiring more and more men.

The grim harvester, death, and normal unavoidable causes of withdrawals cuts a deep hole each year into the supply of any trade or class of labor.

Weighing these factors together with the known status of available immigrants, it becomes a problem for Congress, the Secretaries of Agriculture,

Commerce, Interior and Labor in co-operation with industrial leaders to devise a constructive immigration policy. Such a policy must be predicated on the fundamental of an adequate supply of labor to meet the needs of the country without jeopardizing our standards of citizenship, health or living. It requires restrictions but a flexible interpretation of immigration ideals and a desire to keep the door always open for the right kind of immigration.

We want American Industry to continue to develop and grow. We want to encourage the right sort of immigrants to come here so long as they may enjoy the fruits of their honest labor, become Americanized and enter gainful occupations without reducing employment of our present citizens.

Coué has given us a happy slogan for sane living and reduction of our mentally exaggerated ailments and difficulties. It is no disgrace for any man to labor. Theodore Roosevelt was the

best example of what hearty exercise, outdoor effort could do to build up a frail lad into a real man. It would be a great economic advance for our land if "Every lad in every home should learn at least one trade." His economic independence would thereby be established. There are always odd jobs at most basic trades even in the hardest times.

Just as a doctor first learns the full profession before specializing, so should labor leaders agree on basic trades which could always provide work for those in them. In the larger centers there could be the highly specialized divisions of such trades.

For example, in the building trades instead of nineteen to twenty-five or more trades there really are only about six to eight basic ones. Teach every lad one of these and let him do the specialty afterward he likes best and is most adept at.

No one wants to see labor exploited.
(Continued on page 31)

Groups showing more than 9% increase in male persons in gainful occupations during last census decade

LABOR	OCCUPATIONS	1910	1920
Laborers	Automobile Factories	15,644	80,874
	Chemical and Allied Industries.....	39,711	70,994
	Cigar and Tobacco Factories.....	11,436	21,295
	Food industries	75,691	143,397
	Iron and Steel Industries.....	476,801	717,022
	Petroleum Refineries	11,151	31,566
	Rubber Factories	12,224	47,515
	Garages	4,462	31,339
	Automobile Factories	20,243	108,376
	Chemical and Allied Industries.....	17,158	32,072
Semi-skilled Operators	Iron and Steel Industries	345,483	632,161
	Chauffeurs	45,752	284,096
Garage Keepers and Managers.....	Garage Keepers and Managers.....	5,256	41,944
	Clerks, not in Stores.....	597,833	1,015,742
	Janitors and Sextons.....	91,629	149,590
	Agents, canvassers and collectors.....	96,325	159,941
	Coal Mine Operatives.....	613,519	732,441
	Oil and Gas Well Operatives.....	29,580	90,297

Groups showing decreases or heavy losses

LABOR	OCCUPATIONS	1910	1920
Quarry Operatives	Quarry Operatives	80,795	45,084
	Laborers Building and General or Common...	853,679	608,075
Agricultural Pursuits	Agricultural Pursuits	10,851,581	9,869,030
	Brick and Stone Masons.....	169,387	131,257
Roofers and Slaters.....	Roofers and Slaters.....	14,078	11,378
	Carriage and Hack Drivers.....	35,339	8,966

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Healthy Business Improvement

DOUBTERS and scoffers at the steady and stable improvement in business will have a difficult time in discounting the good news from the general business world within the last fortnight when unusually fine showings were made.

The Anaconda Copper Company declared a dividend of 75 cents a share. This is the first dividend paid by the company since the latter part of 1920.

The Coco-Cola Company declared an extra dividend of 50 cents a share on the common stock in addition to the regular dividend of \$1.50 a share.

Copper metal prices reached a new high for the current movement with large sales being reported at 16¾ cents a pound.

The Standard Oil Company of Kentucky declared a quarterly dividend of \$1 a share. Recently the company declared a stock dividend of 66⅔ per cent. The rate on the old stock was \$5 a share annually, so the dividend ordered represents a large increase in disbursements.

The Buffalo and Susquehanna Railroad declared an extra dividend of 2½ per cent on the common stock in addition to the regular quarterly dividend of 1¼ per cent.

Zinc prices were increased to 7½ cents per pound, the highest since October, 1920.

The United States Steel Corporation and independent producers announced an increase in tin plate prices and on sheets. The latter increase amounted to from \$3 to \$6 a ton.

Montgomery, Ward & Co. announced that their February sales were approximately 50 per cent larger than in February of last year.

It became known that freight car loadings of the Atchison system a week ago were more than 26 per cent ahead of the same week last year.

Freight car loadings of the Pennsylvania system, it was announced, totalled 24,824 in the first six months of 1923, an increase of nearly 18 per cent over the corresponding period of last year.

There was a further advance in raw silk prices with quotations at \$9 a pound.

The quotation of May cotton on the New York Cotton Exchange crossed 30 cents a pound, the highest figure in many months.

It became known that in the first half of the current month freight car loadings of the Great Northern Railway increased 17 per cent over the same period of last year.

The Erie Railroad announced that it is handling the largest sustained traffic in its history.

The Baldwin Locomotive Company let it become known that demand for new engines is so urgent that the management is increasing the output as rapidly as possible and hopes to attain 100 per cent operations by July 1. The output is now at 85 per cent of capacity, with \$70,000,000 of unfilled business on the books.

Then, aside from numerous favorable industrial annual reports, the Southern Railway announced that gross earnings this year to date show an increase of 25 per cent.

The Reading Railroad announced that its gross earnings in January increased 59 per cent, while net earnings were nearly five times larger than in January of last year.

The Illinois Central Railway for January reported an increase of 31 per

cent in gross earnings and an increase of \$1,302,000 or 82 per cent in net.

The Southern Pacific System reported for the same month an increase of 14 per cent in gross earnings and an increase of \$1,400,000 or 96 per cent in net.

Whence Comes The Labor

“WHY should the great Western country see its harvest rotting in the fields for want of common labor when 400,000 Italians are idle in Italy?” asks Judge Manton of the United States Circuit Court of Appeals. That same question might well be applied to many industries in the country, as was clearly shown by the manufacturing groups that appeared before the Congressional committees on immigration the past month. Groundless fears of well-meaning persons, backed by statements of radical agitators, have sought to make it appear that there is plenty of labor in the country; but such claims are not backed with information as to where that labor is to be obtained.

Manufacturers, contractors and builders have told members of Congress that they were compelled last fall to induce labor to leave one job for another, by offering higher pay; have told them that there is at present need for many thousands more common laborers; have told them that the coming open country season will call for half a million more men than can be obtained in one or two lines alone. Yet in the face of this, some of the Congressional interrogators have asked why this country should not prevent the foreigners from coming here and allow the jobs to go to the American-born youth. That question has answered itself for generations. And the answer must be apparent to any well-informed man who has travelled his own country with his eyes and mind open. The native-born youth will not go to the heavier-work jobs; his talents have been attracted to the many new industries calling for a mechanical turn of mind, like the automobile, radio, telephone, phonograph and so on. We shall always be compelled to recruit our rough labor

from other countries, and that the situation is growing as a menace is very well indicated in the statistics of the Commissioner General of Immigration for the last six months of 1922. In that period 39,496 laborers were admitted to the United States. In the same time 23,427 alien laborers went back to Europe. The net gain to this country in immigrant labor was 16,069 in six months or an average of about eighty-eight laborers a day, as against an average of more than 2,500 a day during the period from 1914 to 1919.

A building program has been planned for this country of five thousand million dollars, for houses, factories, shops, schools, churches, theatres, etc., as soon as construction costs become something approaching fair. The lack of rough labor is holding up a large part of these operations; and the situation will grow worse as the summer season opens drawing thousands and thousands of men into the country work. Yet in the face of these facts there has been an effort in Congress even to shut off almost completely the labor coming from Italy and other European countries. The only place we will obtain the men to work on the railroads, dig the ditches, and do similar work, is in Europe.

Crowded With Automobiles

THE United States has 84 per cent of the world's supply of motor vehicles (passenger cars and trucks), according to a count just made by the Department of Commerce. New York State at that rate contains more automobiles than all of Europe.

Including trucks, as the department does, there is one motor car in the United States to every eight and one-half persons. New York State runs close to the national average in this respect, though a little behind it. In New York the ratio is one car to slightly more than eight and one-half persons. The great city population served by nickel-fare transportation gets along with fewer automobiles per thousand people than the farming districts require. Moreover it has no room to put up many more cars if it had them.

In the number of motor cars in relation to the mileage of hard surfaced roads, New York State is far ahead of the nation as a whole. Records compiled in 1916 showed that there was 287,000 miles of surfaced roadway in the country, 18,000 miles in New York State. The State Motor Vehicle Bureau said recently that at the close of the year 1922 there were 1,225,000 motor cars, including trucks, in the State. Taking the 1916 road figures as a basis, it appears that in the United States there are forty-six cars to each mile of improved road, while in this State there are sixty-six. New York State, with one-sixtieth of the area of the continental United States, has not quite one-sixteenth of the improved roads of the country but more than one-tenth of the country's motor cars.

If a similar comparison could be made on the basis of the cost of garage space, New York would far outdistance all other States. For more than half the population and more than half the motor cars in the State are in New York City, despite the extreme street congestion and the difficulty of obtaining storage room.

Air Freight Here And In France

THE Bankers Trust Company has secured through its department of foreign information statistics of French commercial aviation in 1922 which show a remarkable growth in the use of airplanes as freight carriers. In 1921 French commercial airplanes carried 366,278 pounds of freight. Last year they carried 1,165,260 pounds.

A comparison of the activities of French commercial airmen with those of American air carriers by no means shows as much to our disadvantage as popular opinion might imagine. In every respect except in the amount of freight carried American commercial aviation is more active. If the records of the United States Air Mail Service are included in the comparison this disparity becomes even more noticeable.

In 1921 American commercial aviators flew 2,907,245 miles. In that year the French covered 1,459,142 miles,

and last year their total mileage was still 710,405 less than ours in 1921. The distance covered by the air mail service in 1921 would add more than 1,000,000 miles to the American total.

In 1921 American commercial aviators carried 122,512 passengers. The French carried only 9,427 and last year only 14,397. American airmen made 130,736 flights in 1921, as against 6,221 by the French.

SUPPOSE

Suppose the labor unions, as represented by President Gompers of the American Federation of Labor, should have their own way in America to-morrow. What would labor get out of it? What would it mean to labor? Mr. Gompers helps us to answer in part through his testimony before the Lockwood committee of the New York Legislature.

* * * Labor, according to Mr. Gompers, would find itself in this position:

No man could work for a living without joining a labor union.

No man could join a labor union if the union did not want him.

No man could remain in a labor union if the union wanted to expel him.

No man would be allowed to learn a trade without the union's permission.

No man could get such permission if the union decided there were enough men in that trade.

There would be no legal redress for employers who were injured or ruined by strikes due to quarrels between unions.

Unions could sell permits to men who wished to work for a living.

Unions could not be compelled to keep books to stop the theft of union funds by union officials.

Unions could injure either private or public interests with impunity.

Unions would not be compelled to respect wage contracts, but employers could.

Unions could compel the employer to destroy any part of his product and reproduce it under union rules at his own expense.

Union men would not testify to anything that might help an employer in a dispute with a union.

There would be no law to regulate unions, or to correct union abuses, and the unions would stand at all times above the law.

—“Detroit Saturday Night.”

The Charles A. Coffin Foundation

THE General Electric Company, by action of its board of directors has set aside a fund of \$400,000, to be known as the "Charles A. Coffin Foundation," the income from which, approximately \$20,000 per year, will be available for encouraging and rewarding service in the electrical field by giving prizes to its employes, recognition to lighting, power and railway companies for improvement in service to the public and fellowships to graduate students and funds for research work at technical schools and colleges.

This action, according to an official statement by Gerard Swope, president of the General Electric Company, is an expression of appreciation felt by its directors for Mr. Coffin's great work, not only for the General Electric Company from which he severed active leadership last May, but also for the entire electrical industry. "And with the desire to make this appreciation enduring and constructive," Mr. Swope said, "as Mr. Coffin's life and work have been, the board of directors of this company created on his retirement and now desire to announce the Charles A. Coffin Foundation."

The foundation will be controlled and administered by a foundation committee appointed by the board. This committee, within the limits of the purposes for which the foundation is created, will have power to change the conditions applicable to the distribution of the fund and the amounts for each particular purpose.

The committee purposes to distribute the income of the foundation as follows:

First—Eleven thousand dollars in prizes for the most signal contribution by employes of the General Electric Company toward the increase of its efficiency or progress in the electrical art. Particularly the prizes are to further encourage suggestions from workmen. With each prize the company will give a certificate of award. Foremen's prizes are to be awarded for the best department, taking into account its appearance, efficiency of operation and conditions which add to the better conduct of the work and welfare of the employes.

Second—A gold medal, to be known as the "Charles A. Coffin Medal," will be awarded annually to the public utility operating company within the United States which, during the year, has made the greatest contribution toward increasing the advantages of the use of electric light and power for

the convenience and well being of the public and the benefit of the industry. The company receiving the medal will also receive \$1,000 for its employes' benefit or similar fund.

Third—A gold medal, to be known as the "Charles A. Coffin Medal," will be awarded annually to the electric railway company in the United States which, during the year, has made the greatest contribution toward increasing the advantages of electric transportation for the convenience and well being of the public and the benefit of the industry. The company receiving this medal will also receive \$1,000 for its employes' benefit or similar fund.

Fourth—Five thousand dollars is to be awarded annually for fellowships to graduates of American colleges and technical schools who, by the character of their work, and on the recommendation of the faculty of the institution where they have studied, could with advantage continue their research work either here or abroad; or some portion of all of the fund may be used to further the research work of any of the colleges or technical schools in the United States. The fields in which these fellowships and funds for research work are to be awarded are electricity, physics, physical chemistry.

Budgeting For Business

The necessity for budgeting as a means of business control is strongly emphasized by the Fabricated Production Department of the Chamber of Commerce of the United States in a pamphlet which it has just issued for the practical use of the business man.

The pamphlet carries the title: "Budgeting for Business Control." Some of the advantages of budgeting, as set forth by the department, are given as follows:

1. Everyone in the establishment will have a definite goal for attainment.
2. Sales and production plans can be coordinated with financial resources.
3. More continuous operation and greater regularity of employment can be provided.
4. Products, processes and equip-

ment can be standardized.

5. Costs can be used for purposes of control rather than as historical information.

6. Reduction of waste will be encouraged by the maintenance of better balanced inventories, by instituting wage payments based upon results, by definitely assigning responsibility for expenditures.

7. Taken in conjunction with the business cycle, the budget will give warning when to be cautious and the cue to go forward with manufacturing plans.

8. At all times, the budget serves as a measuring stick to compare actual performances with promises and standards, showing not only what may be done but what should be done.

Pittsburgh Builders' Show

The Pittsburgh Builders' Exchange has made arrangements to hold a building show at the Motor Square Garden, Pittsburgh, in the month of March.

This show will be conducted entirely by the management of the Builders' Exchange and should not be confused with other shows or enterprises conducted by promoters.

All kinds of building material and various forms of construction will be shown. This will give the prospective building owner an opportunity never previously enjoyed in Pittsburgh of viewing under one roof, an exhibition of all classes of materials used in the erection and construction of buildings.

It is proposed further to show the inexperienced the proper method of

procedure to secure a home, both in what to do and what to avoid, the purchase of real estate, securing a loan, the selection of an architect, the proper method of selecting bidders and awarding contracts, how to select decorations and the laying out and planting of a garden and lawn. E. M. Tate, Secretary of the Pittsburgh Builders' Exchange is managing director of the show and the Executive Committee is John P. Eichleay of John Eichleay, Jr. Co., builders and house movers, chairman; Frank C. Hoffman, of Hoffman Lumber Co., Treasurer; A. Q. Starr, of Houston Bros. Co., dealers in builders supplies, and W. S. Wing, Eastern Sales Manager of the Universal Portland Cement Co., all members of the Builders' Exchange.

Permanent Industrial Exposition

Newark will erect great structure in the heart of the city for year-round buying and selling—Project endorsed by the City Commission, the governing body, and by business and civic groups

Written especially for AMERICAN INDUSTRIES

By ARTHUR OLIVER

Director, Permanent Industrial Exposition of Newark

THE value of the exposition as a buying and selling medium, a means of expanding business for manufacturers, has been demonstrated by centuries of experience. In the old tales of travelers we read of the wonders of the fairs at Nijni-Novgorod, Russia, and in the historic industrial cities of Germany, France, Italy and other European countries. In the Orient the "selling fair" is a time-honored institution.

Now that America has developed the exposition or fair or a more extensive scale than ever before, she has taken up, as its lost-word expression, the "permanent" industrial exposition. In a number of our progressive industrial communities such institutions are now being organized or have been in progress of development during recent years.

It is well to get clearly in mind, at the outset, the strictly modern idea of the "permanent" industrial exposition. First, it is not merely an exposition, but a buying and selling center. Second, it is not an event of a week or two, like the merchandise fairs in New York and Chicago or the Silk Show, but a place of year-round activity.

As the latest type of a modern idea, the permanent Industrial Exposition of Newark will go even farther than this. It will furnish, under one roof, salesrooms, showrooms and offices, where exhibiting manufacturers may, if they so desire, have as much privacy as in isolated locations. Furthermore, it will provide facilities for comfort and convenience which will give something like a club atmosphere and thus make it a pleasant place to do business in, as well as to visit.

This institution will be national in scope; that is, its facilities will be available for the manufacturers of the United States. Located in the Metropolitan area, thirty minutes from Broadway, it will be a place which the world's buyers who visit the New York district can scarcely afford to overlook. Newark itself is rapidly developing as an industrial city, producing even now, per capita of population, a larger variety of manufactured arti-

cles than any other city in the United States. It stands eleventh among American cities in the total value of its industrial output.

In the year of its 250th birthday



Arthur Oliver

anniversary, 1916, the City of Newark bought a tract of property on its principal thoroughfare, Broad street, opposite Lincoln Park and just at the turn of the Lincoln Highway, as the finest available site for a municipal memorial building. This project was abandoned and the tract was held for some large development. Last July it was purchased at auction by the exposition company.

The tract has a frontage of 309 feet on Broad street, 200 on Pennington street and 309 on Elder place in the rear. Here will be erected a six-story building, to cover the entire plot. It will be of steel and concrete, with brick and limestone facades. Architecturally, it will be of a dignified and imposing character. In cubic-foot content it will be the largest building in Newark.

Intended as it is for exposition purposes, it will be distinctively, in all its features and arrangements, an exposition building. There will be a grand central court with more than 60,000 square feet of floor space, surrounded by a paneled glass roof which will

flood the interior with daylight. Around this court will rise arches supporting tiers of balconies on each floor. Extending along these balconies will be the salesroom or showroom fronts, like store fronts on a village street.

In the entire building there will be about 700 exhibit spaces. These will be in units of 16 by 16 feet in floor dimensions. Every one will have direct approach from court, balcony or corridor. Exhibitors may take individual units or combine them into suites, with salesrooms, showrooms and offices. It will also be possible to have a showcase or wall display, as a silent salesman.

Spaces for automobile displays, machinery or industrial processes will be available in the central court. Sections of the building will be reserved for certain lines of industry.

In accompanying illustrations are shown the Broad street front of the building, the central court and the main floor plan, which in every respect, except the exhibit spaces in the court, is typical of all the floors above except the sixth. The small circular spaces near each end of the court represent ornamental fountains.

From the corners of each floor are diagonal approaches providing access to the court and balconies and affording along their entire length a vista of the spacious interior of the building. All stairways are enclosed in fire-proof walls.

Entering the foyer at the main entrance, the visitor will find himself in the big distributing center of the building, with the grand stairways and high-speed elevators to take him to the upper floors. In the foyer will be a reference desk, telephone booths, telegraph office, check rooms, superintendent's office and directories of the building. Ample receiving room, storage and freight elevator facilities will be provided for the handling of goods. On each floor will be distributing rooms and work rooms, where exhibits will be set up in such shape as may be desired before being placed in showrooms.

Features of especial interest have

been provided for the sixth or top floor. Here there will be a manufacturers' club, with retiring rooms, smoking rooms, council rooms and an entertainment hall with a seating capacity of about 500. On the same floor there will be a restaurant, cafeteria, private dining rooms and a kitchen equipped to handle 700 persons at one time. There will also be in the building a library and reading room, dressing rooms, baths, carpenter shop, electrical shop and other facilities and conveniences to make the institution complete within itself.

Such an institution as this would not be thoroughly equipped without wireless. This important feature is to be provided for by one of the most powerful radio transmission stations in the country, with a radius ranging from 600 miles normal radiophone transmission to a maximum of 3,000 miles by radio telegraph, thus touching points as far away as Cuba, South America and the Pacific Coast.

Radio is also to be featured in the exhibits. Applications for space are being received from manufacturers of

tour of Europe, where he made a personal survey of expositions. He brought back many ideas which are to



Louis V. Aronson
President of the Exposition

be incorporated in the architect's plans. These are now in their final draft. As soon as they are passed upon, working

land, in Denmark and elsewhere. There is serious talk of using the great exposition building in Paris as a home for a permanent industrial exposition.

It is worthy of note that the Permanent Industrial Exposition of Newark has been endorsed by the Newark City Commission, the governing body of the city; the Newark Chamber of Commerce, the New Jersey State Chamber of Commerce and by numerous civic organizations. It has been taken up by the City of Newark as in a large sense a civic enterprise, one which will be of great benefit to the community. The general public is coöperating to make it a success.

"We have gone far enough to know that our project is bound to be a success," says Mr. Aronson, "While we have made no special effort to get exhibitors, we have had a sufficient number of applications to justify us in the belief that when we open our building we shall have 100 per cent occupancy. My observations in Europe convince me that the permanent exposition will prove to be the most productive and successful method



Broad Street front of the Exposition Building

radio equipment of all kinds. Newark, as is well known, is one of the most important centers of radio activity, and this is one reason why the exposition is to develop radio as one of the prime features of its activities.

Europe, as well as America, has contributed ideas to the development of this big project. Louis V. Aronson, president of the exposition and also of the Art Metal Works of Newark, recently returned from a six weeks'

drawings and specifications will be prepared and construction will begin.

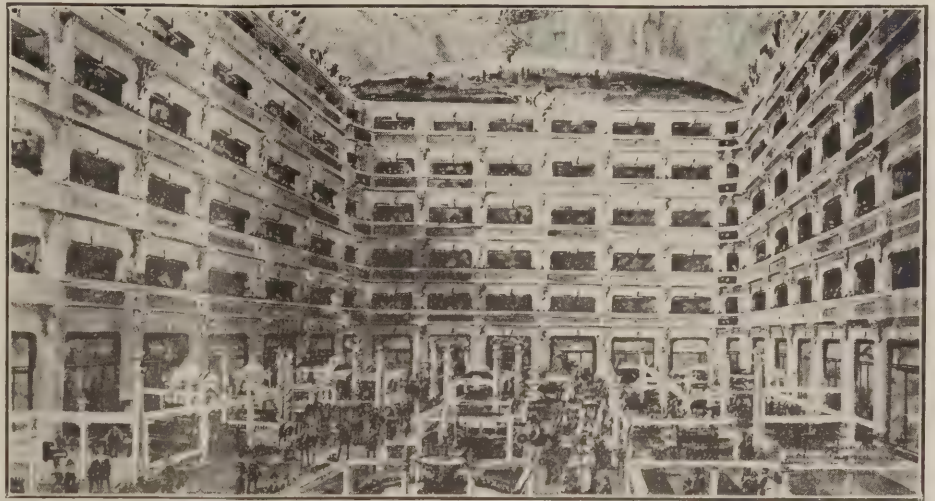
On his foreign tour, Mr. Aronson visited Paris, Lyons, Leipzig, Vienna, London and other points where annual or semi-annual expositions are held. He showed his plans to the representatives of these expositions, and they were deeply impressed by them. Buildings for permanent industrial expositions are being erected, or about to be erected, at Leipzig, in Switzer-

of stimulating trade between the manufacturer and buyer. By providing a year-round buying and selling center in a convenient location and with a large variety of lines to choose from, we shall make it possible for merchants to save time and expense in sending their buyers to isolated show-rooms in different locations.

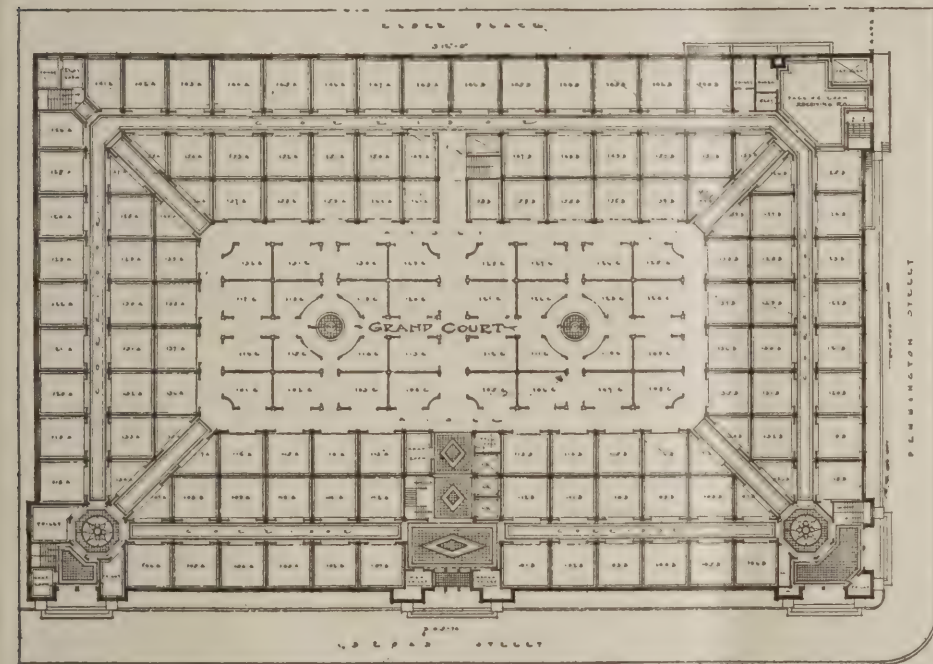
"Before selecting the site for our building, we made a survey of the entire metropolitan area. It seemed

to us that the Newark location was the best available, not merely because of the character of the property, but because in traffic facilities Newark is excelled by few cities on the American seaboard, and because of our close proximity to New York."

An up-to-date system of service is to be maintained, free of cost to exhibitors. This will include departments of publicity and advertising, a domestic trade bureau and a foreign trade bureau. In his European tour, Mr. Aronson came into contact with representatives of some of the biggest mercantile institutions there. They assured him that they would send to the Newark exposition all of their buyers who visit New York. He also received promises from European expositions and chambers of commerce that they



Grand central court



Main Floor plan

would have representatives at the opening of the exposition.

"Europe's interest in the permanent industrial exposition," says Mr. Aronson, "is instanced by the fact that, according to officers of the company in control of the Permanent Industrial Exposition of Leipzig, all the space in their building has been engaged, although the foundation had not been laid at the time I was there. They also said that the plan of having a big variety of exhibits under one roof appealed strongly to visiting buyers, as they thus saved the time and weariness of wandering around among exhibits scattered throughout the city."

At the offices of the Permanent Industrial Exposition, 36 Park place, Newark, many inquiries concerning the character and progress of the undertaking have come in from exposition managers and chambers of commerce in different parts of the country. Eyes seem to be focused on Newark, with the idea of emulating her example if she meets with the success she fully expects.

Home And City Beautiful Fair

AN American Exposition Fair will take place on the Million-Dollar Pier, Atlantic City, from June 16 to September 8. The affair is to be given under the auspices of the American Home and City Beautiful Association with the two-fold object of encouraging the use of articles of American manufacture and education of the people of the United States in home and city beautification.

The exposition has been arranged partly in response to the desire of American manufacturers to focus attention on their products, and partly at

the recommendation of many interested in better home and city development and who see the possibilities of educating the public to higher standards through proper exhibitions of improved methods conducive to betterments in the home and municipality.

The exhibit will be devoted to eight principal groups with allied classifications, as follows: Public and private buildings, materials, equipments and furnishings; the garden, seeds, accessories and supplies; art, sculpture and ornaments; musical instruments and reproducers; The City Beautiful, embracing municipal improvements, hygiene, sanitation and accident prevention; pure food products, confections and beverages; recreation, athletics, resorts and travel information to boost the "Seeing America First" movement; and an important section will be devoted to "Wireless Wonders," showing radio in all practical amplifications.

To show contrast in modern and ancient civilization there will be a modern "Home Beautiful," and a "House of the Ancients," as an example of a contemporary type of residence in the days of the Egyptian Pharaoh Tut-

Ankh-Amen. The modern home will be in charge of an up-to-date economic hostess, with assistants, to tell the visitors how to make their homes more beautiful, while the "House of the Ancients," will be presided over by an equally modern miss, but who will be dressed in a most striking adaption of an Egyptian costume.

Not only model types of houses will be shown, but model streets, gardens, promenades and good roads will be exhibited.

In keeping with the vacation spirit many novel decorations and entertainment features will be carried out, such

as "Neptune's Circus Tent Fair," "The Hippodrome Side Show Emporium," "The Marine Promenade," and "The Aisle of Wonders."

The Exposition will be under the auspices of the American Home and City Beautiful Association, with A. Conrad Eckholm, former president of the Avenue Hotel Association of Atlantic City, as director general.

As the problems of production are being gradually solved and as enlarged markets are being sought, this exposition promises to be of value to American sales managers. There is an old saying that "Seeing is believing," and

concerns having products of merit to sell will appreciate the opportunity of displaying their wares before the best class of American buyers who go to Atlantic City in greater numbers than any other popular recreation center in the country.

Manufacturers recognize a double opportunity at the metropolitan seaside resort for there they may reach not only the ultimate consumer, but many merchants and distributing agents from all over the country with whom they may establish new connections, or renew acquaintance.

Bits of News About Men in Industry

Frederick Franz, who, for the past four years, was chief engineer of the Terminal Engineering Co., manufacturers of the TEC truck, which is designed for combined indoor and outdoor service in connection with railroads, shipping and industrial plants, has established an engineering office at 27 Warren street, New York City, for the purpose of solving special problems of engineering relating to labor saving machinery for industrial plants.

Pottsville Belt Company, which felt the effects of the anthracite coal mine suspension last summer, is again making full time supplying belts for use at the larger collieries.

Shellac and other coatings will be manufactured by the Lasco Company, Baltimore, Md., incorporated by Louis A. Stabler and associates, the capital being \$1,000,000.

General chemical products will be manufactured by the Chlorophen Chemical Company, Elkins, W. Va., to be organized by C. L. Stuckey, F. A. Ravenscraft and F. S. Johnson, the capital stock to be \$250,000.

The Lehigh Valley section of the American Chemical Society has elected these officers: Chairman, Prof. E. C. Bingham, Lafayette College; vice-chairman, Dr. C. Witmer; secretary and treasurer, Dr. A. Bogue; councilor, John T. Little.

S. K. Holland, Thomas O. Long and J. C. Cannaday, will organize the Island River Fluor Spar Company, Providence, Ky., to develop fluor spar deposits near this town, the enterprise being capitalized at \$250,000.

Hagerstown Lime and Chemical Company, has been incorporated at Hagerstown, Ind., with \$30,000 capital. Jacob S. Myers is president.

Everhart Bier, president of the Shriver Coal Company, and associates have purchased 900 acres of coal land on Scott's Run in Monongalia County, West Virginia, for \$250,000, and will undertake mining development.

Automobile lighting devices will be manufactured in Baltimore, Md., by the Rite Lite Manufacturing Company, Inc., with \$500,000 capital, by Raymond Hughes and associates.

Leon E. Thomas, president, Reading Iron Company, has been elected president of its subsidiary, Thomas Iron Company.

William Beuchley, Jr., of Hamburg, Pa., has purchased the Brownmiller lumber yard at Shoemakersville, Pa.

Pennsylvania Power and Light Company, will extend its lines from Kis-Lyn to Drums.

The Wilkesbarre Lace Manufacturing Co. and the Wyoming Lace Mill are increasing wages seven and one-half per cent.

Employees of the General Electric Company are to share in the management of the newly organized General Electric Employees' Securities Corporation, Gerard Swope, president, has announced.

The new corporation will issue six per cent bonds to employees, on the

installment plan, paying an additional two per cent on them as long as the holder remains in the employ of the company.

Seven of the fifteen members of the Board of Directors will be representatives of the employees, elected by the bondholders. Each \$10 par value of such bonds of the new corporation will have one vote for these directors. Eight directors will be named by the company. The new corporation will issue \$5,000,000 of six per cent fifty-year bonds and 10,000 shares of no-par-value capital stock.

Governmental policies over a long period of years have encouraged agriculture and other industries but have "starved" the railroads, George D. Ogden, traffic manager of the Central Region of the Pennsylvania Railroad, told the convention of the Retail Lumber Dealers' Association of Pennsylvania. He declared that in 1904 investments in railroads represented 13 per cent of the total national wealth, but that the present figure was 6.6 per cent, due to legislation that had made investment in railroad securities unattractive.

The International Nickel Company has completed its \$3,000,000 plant at Huntington, W. Va.

Central National Bank will build a \$2,000,000 fifteen-story bank and office building at Tulsa, Okla.

Three new business concerns formed at Salisbury, Md., are the Salisbury Coal Company, Hannaman-Burrough Company and Walter J. Powell Company.

Baltimore and Ohio Railroad plans two new piers at its Baltimore waterfront terminal, to cost about \$2,000,000.

Rail Conditions Cause Loss

THAT the losses to the public through poor transportation facilities are greater than the cost of the Government is the claim of the Secretary of Commerce in his annual report for the fiscal year 1921-1922. He explains that the shortage of rolling stock on the transportation systems of the country not only stifles the progress of production and introduces speculation into distribution, but it also seriously affects price levels. He adds, however, that these conditions are not the result of poor management, but of causes beyond the managers' control. The report says in part:

"Our transportation facilities have lagged far behind the necessities of the country. Progress has been made in their restoration from the demoralization of war, but our rolling stock, our trackage, and many of our terminals are unequal to our needs. Some increases in equipment have been made during the past year, yet they are entirely insufficient as the result of long continued financial starvation. The deficiency in transportation finds its visible expression in car shortage, and, while the recent strike has temporarily aggravated the situation, the trouble is far more deep seated. Except during periods of business depression or strikes there has to some degree been continuous car shortage for the last six years. Furthermore, car shortage reaches its most acute stage during the four or five months of peak load in the fall and early winter.

"Railway cars are the red blood corpuscles of commerce, and we suffer from commercial anaemia every year because they are starved. The losses through short transportation are a tax upon the community greater than the cost of our Government, because such a shortage not only stifles the progress of production and introduces speculation into distribution, but it also seriously affects price levels. No better instance exists than the lift in the price of coal by over 300 per cent in 1920 when there was no strike, and over 60 per cent in 1922, after production following the strike had been resumed. In both cases the mines could have produced 30 per cent more coal, and if the railways could have transported even 20 per cent more then prices would have been normal.

"If the causes of financial starvation were solely a question of war and of hard times we could afford to wait for a natural solution, but they are

not. The Transportation Act of 1920 affirmatively declared that the rates should yield a fair return on the aggregate real value of the railway properties (as determined by the Interstate Commerce Commission) used in public service and operated under honest, efficient and economical management. This amount carriers have never earned and the failure of earnings without charge on the Government is complete disproof of the current fiction that earnings are 'guaranteed.'

"Furthermore, the immediate effect of this recapture provision would be that whereas the strong and fortunately situated railways are able to earn in excess of 6 per cent and are therefore able to secure finance for betterments, the very fact that they

Common Labor Growing Uncommon (Continued from page 23)

Employers have the interest of their men at heart. They want to see enough men in the crafts to enable them to fill the potential demand for their goods or services within reasonable periods without strain and uneconomic overtime rush conditions, or necessity of bidding against each other for an inadequate labor supply. Latter situations always breed excessive costs and periods of inflation, with consequent "buyers' strikes" and depression or unemployment.

The trend of the times and need for better knowledge of costs and other facts of business created nearly twice as many clerical positions by 1920 as in 1910. These positions tapped the labor supply still further.

If every boy had to learn a trade first before he went into any line of business or profession, we would have more general respect for and pride in craftsmanship. A close analysis of any unemployed lists bears out the fact that clerical, sales and other classes of labor, "White collar" variety, are still suffering. They are the first dropped in depressions and the last put back. They lack a trade to fall back on to make a living when their specialty is off.

And yet bonuses and wages better than ever earned are being offered with no takers in many trades. Many operations are running without half enough common labor. Skilled workers are losing time because of this and buyers are not obtaining their constructive goods or services as soon as they should.

did earn in excess of the average would mean that the weaker roads were unable to earn up to the average.

"The present act contemplates the solution of the problem of the weak roads through voluntary consolidation of the weaker and stronger roads into larger systems to be definitely indicated by the Interstate Commerce Commission. There is no doubt that such consolidation would be a large advance in solution to the whole problem.

"We must have increased transportation, if we are to maintain our growing productivity. We must, therefore, find a way out of the cycle of systematic starvation of a large part of our mileage and the denudation of our railway managers of their responsibilities and initiative."

We all know that the most successful foremen, managers and leaders are those who have grown up in the business and know well at least one of the trades involved. Henry Ford is a noteworthy example.

The few census occupational illustrations shown in the accompanying table vividly portray the lines of vocation showing marked increases or new requirements in 1920 over 1910. Also some of the trades are suffering a serious decline and curtailment of output because of inability to hold their own workers or to gain relief from an adequate supply of common or general laborers.

The average man thinking of immigration does not comprehend the tremendous needs of industries forced to quickly expand and the ramification into all other lines of the recruiting and "scouting" effort of labor mobilization. Some people argue that the coal industry has a large surplus labor supply. But experience shows that these men will not go into other lines, preferring to loaf during the time they are not needed. The Peabody Coal Co., of Chicago, one of the largest operating companies, finds a daily labor absenteeism of 25 per cent, even in busy seasons.

Our male population in gainful occupations grew but 9 per cent in last census decade while the population growth was 15 per cent, notwithstanding increased industrial needs for labor. Wise immigration policies and the awakening of American boys to the value of having a trade are essential if American industries are to grow and prosper.

Business
in
the
Far-Away
Lands

WORLD TRADE

CONDUCTED BY

WILLIAM M. BENNEY

*Manager of the Foreign Trade Department of the
National Association of Manufacturers*

Business
Opportunities
in
Other
Countries

Argentine Neither Broke Nor Blue

Brighter prospects for a gradual trade revival with the United States should inject renewed energy into American business men who are inclined to look with doubt on the southern market

PESSIMISM regarding the future of American trade with River Plate markets that settled like a pall on American bankers, manufacturers and exporters during the latter months of 1920 is still a cause of depression to the American business community in Buenos Aires, says a bulletin of the Chamber of Commerce of the United States in the Argentine Republic. The apathy shown since that time by many American concerns towards further expansion efforts in River Plate countries is extremely disconcerting. The transition from a period of buoyant enthusiasm to one of sheer despair made itself felt over night. However, this fickleness on the part of the American business world shows a lack of understanding of present day Argentine conditions and of a do-or-die determination which must be supplied if United States' commercial interests are to gain and hold a larger share of River Plate business.

Unfortunately some stay-at-home Americans do not seem to realize that courage in the face of great odds is just as necessary to the achievement of success in Argentine business as it is in commerce within their own national borders. Some of the greatest American enterprises of to-day owe their beginnings to the faith shown by determined spirits when less courageous men were giving up in despair. No right-thinking American hopes to achieve business success in the United States without a modicum of courage and far-sighted vision; can they not realize that these same qualities will win recognition for those who reach out for River Plate business?

Pessimism seldom precedes a business depression. It does logically follow one, however. Argentina felt the bludgeoning coincident to deflation: indeed, she is still feeling it. Happily the worst stages of this crisis were long since passed. It was but natural that Americans interested in Argentine trade felt gloomy while the storm lasted; however, brighter prospects for a gradual trade revival should now inject renewed energy into those inclined to be quitters.

Of course, Argentina is not the market she was during the prosperous war years when her purchasing power was bolstered up by inflated prices received for food stuffs and raw materials. Nevertheless, with internal conditions that are to-day and have always been fundamentally sound, Argentina is a customer of proven solvency and steady purchasing power. Argentina, with the fifth largest gold supply of the world, has the highest ratio (80 per cent) between the gold reserves and fiat money of any other country. Doubtless such statements as these, through constant repetition to the American business public have now become commonplace. And yet it is only by dint of reiteration that facts concerning any foreign country are finally driven home to the masses of American bankers, manufacturers and merchants.

Argentina has just witnessed a change of Administration and great things are expected of the new president, Dr. Marcelo T. de Alvear and his Cabinet of carefully chosen men. Due to ideal weather conditions and increased acreage sown to grain crops the bumper harvests of the country's his-

tory are confidently predicted. Argentina's productive machinery is intact although some of it is standing idle; however, this can be set in movement on a moment's notice. Under such conditions Argentina will continue to produce economic wealth, a considerable portion of which must be spent abroad for necessary manufactures and supplies.

In 1916 Argentina's total wealth was estimated at -13,979,000,000, U. S. gold; her population at that time was 7,885,237; hence the per capita wealth of the country was \$1,070.60—a very respectable showing. No later official figures regarding national wealth are available but no doubt these will be a great revelation, for the wealth of the country must have increased at a notable pace during the past eight years. Argentina carries on a foreign trade which averages \$200 per capita for every man, woman and child in the Republic.

A population of 50,000,000 souls could be supported by Argentine in ease and plenty: even though it reached 100,000,000 there would still be elbow room. At the past rate of growth the present population of Buenos Aires and environs (approximately 2,000,000) should be over 5,000,000 by 1950. By that date, too, the Republic's population, judging by past achievements, will have reached 25,000,000 from the paltry 8,500,000 she has to-day. A fertile soil apt for the production of all necessities of life; a benign climate, ranging from the semi-tropical to the semi-frigid, especially favoring agricultural and pastoral pursuits; forestry and mineral resources of incalculable

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latent possibilities; a progressive people bent upon the development of their country along modern lines; these are economic facts which must be considered by American business men when weighing Argentina's assets in the balances. Happily, it is now proven that Argentina has enormous oil reserves, widely distributed throughout her territory. Cheap fuel, abundant and cheap raw materials, an expanding domestic market for manufactures and satisfactory labor supply will inevitably lead to the creation of large scale industrial enterprises. Diversified production, supplanting the outworn, uneconomic policy of strict adherence to agriculture and grazing, is destined to multiply the purchasing power of the country many times over.

The gradual industrialization of Argentina must now be accepted as a foregone conclusion, but experience has taught us that the best customers of the United States have been highly industrialized nations of Europe. Consequently the transformation of the Republic into a manufacturing country rather than represent a menace to the sale of American goods must be accepted as a factor of first rate importance in broadening the Argentine market, especially in so far as industrial equipment goes.

In spite of the progress made by some local industries that are now capable of supplying Argentina's needs for certain goods, nevertheless, this

country must long continue to purchase the bulk of its requirements from manufacturers abroad. At present day prices these needs demand the expenditure of almost one billion dollars yearly and fair share of this money should be spent for American goods. The portion, however, which goes to the United States will depend on the ability of American manufacturers and merchants to supply the right goods at the right prices and render real service to Argentine clients. Full certain it is, therefore, that now is not the time for relaxation. On the contrary, the present moment should be seized upon with the determination to leave no stone unturned in an effort to win and hold a larger share of Argentine trade.

Never before has the United States had such splendid machinery for doing Argentine business. This machinery comprises a corps of American bankers, ship operators, insurance companies, and traders who, through hard-earned experience, have acquired a practical grasp upon Argentine-American trade problems. It is true that some weaker American concerns formerly doing business in Argentina have been eliminated owing to the pressure of hard times. Albeit their disappearance is not to be lamented; rather the contrary, for their elimination, leaving the field open to only representative and legitimate traders is a matter of real satisfaction. The great problem confronting American business in Argen-

tina to-day is that of building a solid and permanent structure on the sure foundation which has already been laid. Failure to do this with all speed will prove little short of suicidal.

American business men know that in domestic commerce a large volume of trade in a new territory cannot be built up in a day. To achieve results not only is hard work necessary, but often, it must be remembered, that even the best of merchandise requires considerable time before it becomes firmly established in public favor. Is it not possible for these men, now engaged in foreign business, to realize the necessity for persistent efforts carried out not only month by month and year by year, but throughout a decade or a generation? Quitters have never been pointed out as examples of successful men in the domestic business circles of the United States. Americans, unwilling to carry on in spite of serious odds, cannot hope to obtain the results which equally sagacious business men of other nationalities have achieved after years of constant endeavor.

To relax efforts at this crucial moment is to neglect an opportunity which may not return for years to come. To seize this opportunity and press onward with a determination to override all difficulties is to assure the United States an increasingly important position in this highly competitive but valuable market.

America And Spanish Tariff

THE Spanish tariff now in effect has made large increases in most manufactured goods imported into that country and also provides for two rates of duty, the lower rate being granted to countries which made reciprocal arrangements with Spain. For the present, American goods enjoy the preferential or lower rates, but will only do so (unless another commercial agreement is arranged with Spain) until November 5, 1923, as the Government of Spain denounced the commercial agreement with the United States of August 1, 1906, under date of November 5, 1922. The situation which now presents itself is well described in a letter from M. M. Smith, President of the American Chamber of Commerce in Spain, addressed to the National Association of Manufacturers. The letter reads as follows:

"We earnestly request your active support and help in a matter which vitally affects not only the future of

our organization and its members but also that of American trade with Spain and her possessions.

"The official *Gaceta de Madrid* published on the tenth of last November a measure of the Ministry of State (dated the fifth) denouncing the agreement of August 1st, 1906, which regulated commercial relations between Spain and the United States. This agreement was drawn up in such terms that either of the parties to it, before denouncing it, must give a year's notice to the other. Therefore, it remains in effect until November 5th, 1923, and meantime our merchandise introduced into Spain will enjoy the advantage of paying customs duties under the second, or preferential, column of the tariff, in addition to advantages still further accorded by special agreements of recent date to merchandise of British, French, Swiss, Norwegian and other origins.

"These advantages are, for us, but temporary, however, and we think it

needless to emphasize the enormous gravity of the situation which the denouncement of our commercial agreement creates for all those interested in selling American goods to Spain. If a new commercial agreement is not signed between the two countries before November 5, 1923, American goods will lose all the privileges they at present provisionally enjoy and will have to pay customs duties under the first column of the tariff, which, generally speaking, are more than double those of the second column. Thus Americans not only will be at a disadvantage as regards those nations paying duties under the second column but at a still greater disadvantage as regards the British, French, Swiss, Norwegians and others who have recently signed special commercial agreements with Spain. These agreements give those countries a reduction on their principal exports of about 20 to 30 per cent less than the duties of the second column."

How Germany Can Be Saved

Remarkably interesting and complete viewpoint, taken from a stenographic report of an address delivered before the Economic and Financial Committee of the German Economic Council few weeks ago

By HUGO STINNES

EVERY man who is engaged in manufacturing, whether on a large or a small scale, whether he is producing finished goods or raw materials, must wish with all his heart for a speedy ending of our present inflation and the definite stabilization of the mark. Opinion in Germany is divided only as to the conditions under which we can bring that desired object to pass. I believe there is no such difference of opinion, however, in the National Manufacturers Association and, above all, in the Directorate and the Executive of that Association. Naturally, there are slight shades of difference, as everywhere. But in the broad and large, opinion is entirely unanimous.

This opinion has nothing to do with vertical and horizontal trusts. I am happy to begin my remarks by clearing up this point.

Vertical trusts are the children of

their time, and horizontal trusts are the children of their time. If money and goods are hard to get, we have vertical trusts, because they enable business to dispense with money and purchases of raw material by articulating all the stages of production under single control, so that very little money is used in the actual purchase of the things employed in production. But if raw materials and good money are abundant—which is a condition we shall eventually see again in Germany—then horizontal trusts will come to the fore. I was personally very active in organizing horizontal trusts before the war, when we were a wealthy nation in respect to capital and raw materials. I hope, if I live long enough, I shall be able to swap horses again, when conditions change and again make horizontal trusts the more desirable.

We Germans are, in my opinion,

much too doctrinaire. We are prone to imagine that institutions and devices that are the children of their time and the children of temporary conditions are absolute and will endure for eternity. And in my opinion, we should get rid of the idea that a man must stand for a particular theory because he has adopted a certain course under certain exceptional conditions, although he may never have desired those conditions to occur. There is hardly a man in Germany whose business was so shaken to the foundations, whose existence was so critically threatened, as my own—by the war in the first place and by our defeat in the second place. There are few men whose business had such a world-wide extent, and therefore suffered so by the destruction of world commerce.

I admit that certain industrial groups and certain branches of business are so affected by the present con-

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ditions that they cannot protect themselves, partly because of Government regulations and partly because they lack knowledge, capacity, and ability to overcome these conditions. On the other hand, there are other industrial groups—naturally those that command greater resources and greater skill, and above all have broader business connections and a better knowledge of world conditions—that are not so defenseless under our present circumstances. It is quite natural that those industries that are better able to protect themselves should defend their interests more vigorously than those that are helpless. That is the only difference between them. Those industries and industrial organizations that are still capable of making a fight for survival believe that their salvation does not rest in any compromise or appeal for compromise; that compromises will result in a fiasco that will merely make things worse than they are to-day. Certain industrial groups who are still able and determined to fight for their lives take this position: "We will agree upon no measure that will put us in a much worse situation three months from now, or six months from now, than we are in to-day. We intend to fight and to keep fighting without any remission, until we force some kind of settlement that will be a real, permanent settlement, and that will not surrender the control of German industry and German business to the people of a foreign country."

For you, gentlemen, can hardly fail to be aware of this: war indemnities are being extracted indirectly from German business every day—through compulsory measures forced upon us by outsiders, and through the conditions that prevail at home—which are literally beyond reckoning. I know that enterprises have recently been organized abroad whose sole object is to take advantage of the present inflation of the mark, to buy up buildings, land and other properties in our country, and that in this manner many billions of gold marks are being taken from us in ways that have nothing to do with the Peace Treaty.

I believe that the men who have it in their power to defend certain key positions in German industry are only doing their duty in hanging on to those key positions and not letting any foreigner have them. For, if these key positions do get into the hands of foreigners, as has already happened, for instance, in Austria, the reconstruction and revival of our country will be still more difficult, and we may never be able to recover our economic independence, on account of political duress.

Coming now to stabilizing the currency, we must first of all, I think, get a clear idea of the economic condition of the German Commonwealth both abroad and at home. Germany is running up a heavy deficit because she is not producing enough. I estimate Germany's underproduction as at least two hundred million gold marks a month. Germany not only must produce two hundred million gold marks more, but must produce them over and above the cost of production, if she is merely to pay her own cost of living. Not until we have done this can we begin to produce an excess to apply on our Reparations debts to other countries.

So right here, at the outset, we stand face to face with the enormously difficult question: how can we increase our production? and the second question: how can our Reparation debts be reduced to a reasonable basis?

I am firmly convinced that if the French and the Entente in general were enlightened enough to grant the German nation—conditionally upon our increasing our production to the surplus point—free control over our destinies, and if they were to withdraw their forces of occupation, the Germans would get down to work and in a comparatively short time would again become a prosperous people. Whether the French and the rest of the Entente will agree to such conditions, seems to me doubtful.

If we are to survive, then, we must produce more. We must also have access to the markets of the world. In spite of the control we are exercising over our exports—and I have no use for that kind of control—our country, with its worthless money, is shipping goods abroad to an extent that creates an almost intolerable condition among our neighbors. We have just had a report from a Netherlands expert, written with the boot and shoe industry of his country primarily in mind. We cannot blame him if he protests at the ruining of an industry through the effects of inflation in Germany. We shall soon be faced with innumerable barricades against our goods, with artificial obstacles of every kind to keep us out of foreign markets, because we have no dependable standard at home by which to control our own costs of production, and we are sending under-priced goods abroad that represent an actual subtraction from our national wealth. So long as we buy our raw materials on credit, such exports may afford a momentary relief. But they are a charge against our future prosperity, and will eventually force our manufacturers to shut down completely.

We cannot restore economic pros-

perity at home until we enjoy the most-favored-nation treatment abroad. We cannot expect most-favored-nation treatment abroad until we create conditions at home that convince foreign Governments that we are paying our costs of production on a sound-money schedule; in other words, we cannot dump goods, over and above what is normal and reasonable, upon their markets.

In a word, I take the position, and I believe that an increasing number of other business men familiar with world conditions take the same position, that the first requirement for the recovery of Germany is to work harder—indeed to work to excess. I do not hesitate to assert that in my opinion the German people will be obliged, for ten or fifteen years to come, to work at least two hours a day more, in order to raise production to a point where they can live and have something left over to pay for Reparations. Furthermore, it is my conviction that we must have a general housecleaning and get rid of a lot of things that have hampered Germany's production during the war and since the war.

At the same time, the most-favored-nation treatment abroad is also essential for our industrial survival. That must be granted us as compensation for our longer working day. Give us these two things and we shall have prepared the way for stabilizing our currency and for whatever else may be needed. It goes without saying that we shall have to put our wages back on a gold basis. I consider it absolutely impossible for Germany to recover her position in the markets of the world until she pays her wages in gold. But this is obviously a reform that must follow, instead of preceding, other reforms.

If you resort to some such quack remedy as a loan of 500 million gold marks from over-trustful foreigners, you will spend the last pfennig of it to no purpose inside of two or three months; and you will not have the 500 million gold marks later, when it is absolutely necessary for you to have them. Some one interrupts, that we are to get a billion gold marks. If you get a billion, you'll squander them in five months, and you will not get most-favored-nation treatment, neither will you get the wages of German workingmen back on a gold basis. And let me repeat: wages in gold are absolutely indispensable, for you will not get England and the other countries to grant you most-favored-nation treatment in their markets until our working people are compensated on the same general basis as their own working people.

Now I come to the rate at which we should stabilize. In view of the mon-

strous sums of paper marks in circulation, fixing the permanent ratio of paper to gold at too high a point would mean a gigantic contribution to foreigners. For foreigners have bought up paper marks in enormous quantities, and the higher the ratio to gold that we fix as the permanent value of the mark, the heavier the contribution we shall pay to foreigners who have bought these marks at comparatively low prices. More than that: if we peg this ratio too far up we shall add correspondingly to the salaries of our officials and the wages of workingmen, whose nominal rates of pay in the present worthless currency are exceedingly high. We must expect our bureaucrats and wage-earners to fight bitterly to maintain their salaries and wages at the present rate, no matter what the ratio of the mark to the dollar. So by placing that ratio too high we shall invite an epidemic of strikes.

But I believe that we cannot stabilize the mark successfully unless we can look forward to a long period without strikes and wage conflicts. If we start out our stabilization with an epidemic of strikes, that stabilization will cease, in my opinion, inside of two months.

So I believe there are very weighty

reasons for not fixing the gold value of the mark too high: namely, the prospect of an enormous loss of capital to foreigners, and the certainty of bitter wage-conflicts. In my opinion you will never be able to make the average German at home understand that if you deprive him of half the nominal value of his paper marks, he may still have as much property as before. He will merely tell you: "I do not care about that. If you try to take it away from me, I'll fight back." And if he does fight back for two months, your stabilization scheme will be a failure.

Therefore, I think, we must muster up courage in Germany, first to say to the people: "You may keep your eight-hour day; but you must work, for some time to come, enough more than that to accumulate an active credit balance, and in addition enough for us to live on, to pay interest and sinking fund on a loan to stabilize the mark, and to pay such Reparations as may prove absolutely necessary." I do not think this Reparations payment can be very large, now that things have been allowed to come to their present pass. I believe that both France and Belgium are beginning to realize that the payment will prove a very moderate one. Still, I am convinced that it

should be large enough to rebuild all the human habitations in the devastated districts.

I consider it an absolute disgrace that we have obligated ourselves to deliver materials that are not to be used directly for reconstructing human habitations in the devastated territory. For instance, when we deliver Belgium new rails to replace her old rusty rails, that has nothing to do, in my opinion, with Reparations. When we deliver England mine timbers, that has nothing to do with Reparations. When we enter into ambitious schemes for southern France and God knows where else—for instance to build great warehouses in southern Tyrol—that has absolutely nothing to do with Reparations. Although I know that I am unable, with my own resources, to rebuild the devastated regions, I am none the less convinced that this task must take precedence, and cannot be evaded. In my opinion, they would long since have been completely rebuilt if we had been the victors in the war, for I take it that any victorious nation would unquestionably get rid at once of the incubus of such a chaos of wreck and ruin. That territory must be rebuilt, if merely for psychological reasons. The millions of people who are now living there, under in-



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tolerable conditions, must be conciliated and made contented. Otherwise I do not expect to see the country to which they belong recover its sanity and reason. That was my sole motive for making the Heimburg contract. I did not leave M. de Lubersac in doubt for a moment that we should not be able to deliver very much under that contract while conditions remain as they are at present, but I determined I would do everything in my power to see the little we could deliver should at least benefit the human beings who were suffering, and should not be used for objects that were far less immediate and exigent than rebuilding those human habitations.

If you gentlemen charge me, and the men who think as I do, with opposing stabilization of the mark at any price, you are absolutely right. But at the same time I tell you that the hopes and the interests of all of us are identical. We are merely differently situated in respect to our ability to defend ourselves against our present evils. And let me tell you one thing more: I have never faltered in my determination to defend my interests and Germany's interests, and I shall never falter in my determination so long as I live. I shall always fight against transferring our wealth and the control of our industries to a foreign country, so far as that is possible. I shall do all in my power to promote the eventual understanding at which we must arrive with our neighbors, on any basis that will make us again a free nation, disposing of our own destiny and our own resources.

I am deeply desirous that during the interval before this is accomplished we may not waste our national wealth by bad government at home, as we are now doing. Our real estate and our buildings are being sold to foreigners at no more than five or six per cent—in many cases at no more than three or four per cent—of their actual value. I beg you to consider what a fantastic tax that means upon the German property holder. I admit that if we had legislation to prevent foreigners from making these profits of ninety and ninety-five per cent of the total value of the property they purchase, they would be less interested in a continuance of the present situation. To-day they figure this way: "The danger of Bolshevism may make us lose everything; but so long as the situation continues as it is at present, we are making a mighty good thing of it. Germany is paying us every month, or every week, so many billions of paper marks which we are able to invest at an incredible profit."

In fact, companies are being formed to do this sort of thing. An Italian

company has already been organized in Switzerland, and French companies are being founded. It is a marvelous speculation. In this way private parties are able to collect billions of Reparations that their countries could not get in any other way. And they are getting this money at the cost of the German middle classes, at the cost of the people least able to stand it: at the cost of people that the Government will eventually be obliged to support from the public funds in order to keep them from starvation.

But you can, in my opinion, remedy this situation. You must muster up courage to say at once to the German people: "You poor fools! No man can lose a war and then work two hours a day less than usual. That is impossible. You must work, and work, and still work. And if you work well and are firm in your resolve to work at some productive occupation and not to palaver, the way we are doing here—these gentlemen and I could be producing a great deal more somewhere else—the product of your labors may eventually make itself felt in the value of our money, and that will be a big step forward." So that is what we must do.

But at the same time we must stick to this point of the most-favored-nation clause. I regard all the financial measures hitherto proposed by our Government as utter folly. In the first place, this is not a financial question. Our financiers can be of no use to us until our production has reached a point where we have finances with which to financier. When our industries are again running at the top notch of efficiency and when we have markets to which we can ship our products, then it is time for the financier to step in and say: "Under such and such conditions I can supply you with a loan, and so much of this loan will be for your own uses, and so much for France and Belgium." When we reach that point, we have solved the situation.

But so long as you hold a Damocles sword over the German citizen and threaten him that the harder he works, the harder he exerts himself, the tighter the noose will be drawn around his neck, you will make no profit.

I believe the world is coming to its senses. I am inclined to think that if we could get together and talk over the subject in not too large a circle, and start over with quite different premises and different points of view from those we have had before, we might make quicker progress. But when I see a Reparations Commission coming here to Berlin and talking nothing but dollars and dollar-

loans that we shall squander in no time, that leads us to nothing.

I have not talked with the Reparation Commission and therefore am not one of the men who are supposed to have submitted to that Commission an "industry plan"—which, in my opinion, does not exist. But on this point there can be no doubt. If I conceive the German Commonwealth as a business amalgamation with considerable real assets but still not paying running expenses—and I must conceive it as an amalgamation having a joint debt—I am sure it cannot get any more money until it is run in such a way as to produce a profit. If it cannot make a profit, it will have to be dissolved. For the constituent firms can make a profit, and they will not remain in the combination unless the combination as a whole is profitable. In other words, the German Commonwealth will go to smash. And when we study the tremendous domestic difficulties with which we are dealing, and the secessionists sentiment in the different states of the Commonwealth, we discover at the bottom a feeling, and a justified feeling in many instances, that these states are individually running their Governments on a sound basis. They are alive and working. And why should they remain in a federation that might run its affairs equally well but is not willing to do so—that has not the courage to face the truth? They ask why they should be involved in a general bankruptcy. If the Federal Government will get down to productive labor, the dissatisfaction with the Government in the East, in the Southwest, and also in the West, will, in my opinion, vanish. But you are not doing that.

So let me say again: if I look upon the Commonwealth as a business enterprise, I first want to know how it is managed. That is what any banking house would ask before it extended credit: it would want to know where its creditor gets his revenue.

In a word, the Entente is nothing but an unfriendly bank with which we are compelled to make business arrangements. The first question it raises is: How can the business be managed best? How can we handle the situation? If the question is simply: How can this country, Germany, be put on a sound credit footing, I think we can clear up the present confusion very promptly. The unfriendly bank will have to make several important concessions. It must see that we have an opportunity to market our goods. It must unlock the world for us. Finally, when this and other similar preliminaries are settled, the bank will be in a position

to say: "Well, now I am convinced at last that you are in a position to do business at a profit, and will give you a current credit." (Let me say, a stabilization credit would be, in case of Germany, nothing but a current credit.) "In addition, I will advance you money enough to settle with your other creditors: that is, in your case, the Reparations Governments."

You, gentlemen, have never got this idea into your heads, and so you have never tried it. But that is the way I would talk to these people if I had it to do. I am convinced that no Frenchman would be blind to such logic. The only serious difficulty I foresee is as to the order in which things are done: whether, we are to be given our freedom and the occupation troops are to be withdrawn from the whole Rhine territory first; or, we are first to increase our production and our hours of labor. That is something that will have to be worked out by skillful negotiation. I imagine, if you say to a Frenchman: "You must get out of our country first, and then we will discuss other matters later," he would say, "'No, I won't do that.'" But if we talk over the other aspects of the problem, and the French become convinced that nothing can be done until they do get out, they will

leave of their own accord. They will want certain guaranties; they will try to get some definite understanding with the Americans. For we cannot dispute the fact that any guaranties we may give merely to England and to Italy may under certain conditions prove no sort of guaranties whatsoever. If we are honest in our own minds, we shall confess that such guaranties are not satisfactory * * *

We shall never secure the confidence of our creditors with such artificial measures as have been hitherto proposed: in my opinion they will never entice the dog from behind the stove. The world will have confidence in us when it sees that "these Dutchmen are coming to their senses." Then they, too, will begin to come to their senses. You cannot win confidence by childish experiments in manipulating your exchange. These may bring you a brief reprieve from the gallows, but they will not save you from the hemp in the end. That is why I am personally against all such temporizing measures that do not get down to the heart of the question.

Any loan that is advanced us for the purpose of stabilizing our exchange must be a long-term loan. I believe it absolutely necessary, if we are to accomplish results, that we lay our plans for a long period of crisis, so that we may be able to deal with the coming unemployment problem by credits from Europe and America; and we shall require such credits every six months, in order to carry us over the period until we can make deliveries on our contracts. We shall be needing increasingly large quantities of raw materials.

You, gentlemen, see the situation much too simply. To be sure, with our vertical trusts we shall be able to speed up our processes of manufacture and thereby reduce our requirements for raw materials. Just now, with our eight-hour day and the reduced efficiency of our labor, we have vastly more raw materials and half-manufactured goods in process of fabrication than we used to have. But in addition to that, for instance in our iron and steel industry, we shall have to produce more, and we shall require more capital with which to produce. Our drafts for payment on our deliveries will not be collected for several months. So we shall inevitably need large sums of ready money.

Everybody who has any brains and influence in Germany must take it upon himself to convince the people that there is no way out of our difficulties except by hard work. But if we are to work, we must naturally have places where we can sell the products of our labor.

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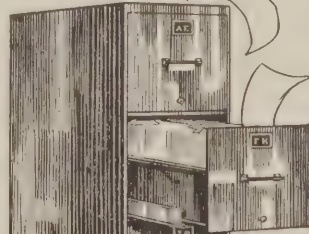
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ATLANTIC CITY, NEW JERSEY

Opportunities In Czecho-Slovakia

Written especially for AMERICAN INDUSTRIES

By DESIDER FEUERZEUG

VERY few American business men are really aware of the wonderful opportunities that Czecho-Slovakia offers to them. Exporters, importers and manufacturers who wish to further their interests, will certainly find it to their advantage to scrutinize the situation very carefully.

A new republic, occupying the northern part of the former Austro-Hungarian Monarchy, was formed in 1918 with its chief capital at Prague. Its present population is about 14,000,000. This republic has accomplished remarkable results since its existence, and leaves an open field of opportunities for the American business world.

The problem, which remains to be accomplished, is the necessity of bringing together again all the productive forces which were scattered by the World War, so that the complicated mechanism of commerce and industry can be brought once more into action, and in this way also the exchange of products among these countries facilitated.

This necessity is important for every country which has an industrial and export capacity.

If we take into consideration the geographical position of Czecho-Slovakia, in view of the natural tendency of her present export and import trade, the city of Bratislava, capital of Slovakia, formerly called Pozsony or Pressburg, is predestined to build up the future commercial relations between Czecho-Slovakia and the United States.

Bratislava, on account of its favorable geographical location, and because of the river Danube crossing the city, builds the greatest trade route of Central Europe. This city lies on the world line to Constantinople and Bagdad and forms at the same time a connecting link between the Balkans and Adria.

As a result of the far advanced economic consolidation in Czecho-Slovakia, a sample fair, called the International Danube Orient Fair, was founded with the help and under the auspices of the Czecho-Slovak government and the coöperation of large corporations. This permanent Orient Fair is located at Bratislava on the Danube River, which is developing into the most important transfer corridor of Europe.

The aims of the Fair are mainly to contribute a share to the reorganization of international trade, to offer once a year a complete picture of the

strength of various industries in the form of a competitive offer, and to bring together with it the concentrated demand from home and abroad.

The character of this Fair is truly international and it guards the good traditional principles of free competition. The fair represents not only a sample fair but also a large commercial market with effective goods, where the offers and demands meet.

The first Orient Fair was held in the autumn of 1921. The results of this first manifestation were beyond all expectation. 1,450 industrial firms, 400 agricultural exhibitors, including the agricultural machine industry, participated in the first fair. The number of buyers and visitors totaled about 140,000. In spite of the insignificant market possibilities at that time, the amount of business done amounts to 250,000,000, Czecho-Slovakian crowns, equivalent at that time to \$3,000,000.

The second Orient Fair which was held in July, 1922, showed far better results than the first fair did. This fair is already beginning to occupy a prominent place, as one of the most important mediums for supplying Russia with necessary products, which is also very important for Americans.

The third Orient Fair will be held from August 23, to September 2, 1923, in its own exhibiting pavilions on an area occupying about 35,000 square

meters concentrated in the Danube harbor.

American manufacturers, exporters and buyers, in their own interest, whether directly or indirectly, are earnestly invited to participate in this important industrial manifestation.

The third Orient Fair will be divided into the following industrial sections:

Metal industry, machinery, electro-technic, building industry, chemical industry, glass and porcelawares, industrial art, graphic art, toys, musical instruments, jewelry, leather goods, victuals, office supplies, furniture, dry goods, fancy goods, sporting goods, textiles, bath and summer resorts, Danube navigation.

The fair has a well organized commercial department, which welcomes inquiries about all kinds of products. The above mentioned department has a permanent connection with the most important foreign business enterprises, corporations and commercial houses, accepts all kinds of orders and offers, and in turn refers them, free of charge, by means of circulars or individually to those interested.

The latest date for the applications of exhibitors for space is June 15. Application forms and complete information about the fair are obtainable at all the Czecho-Slovakian Consulates, at 414 East 77th Street, New York, and at the Orient Fair Direction in Bratislava, Czecho-Slovakia.

The Mexican Year Book

The Mexican Publishing Co. of Mexico, D. F., through its publishing agents in the United States, the Gulf Ports Magazine Co. of New Orleans, La., has just put in circulation a very useful book which has come to fill a real necessity for all those interested in Mexican business. The title is "The Mexico Year Book and Commercial Guide." It is printed in English and Spanish and its contents cover briefly historical and administrative subjects, and covers thoroughly the very important subjects of mining and petroleum, the two leading natural resources of Mexico. Other topics summarily touched are railways, ocean transportation, imports and exports.

The book has been published under the auspices of the Mexican National Railways and the data has been gathered from reliable official and private sources.

The material appearance of the book is highly artistic.

Previous to the initiation of the long period of Mexican revolutions which lasted from April, 1913 to May, 1920, information covering all aspects of that rich country was plentiful and periodical. Official statistics, year books and bulletins published both in Spanish and in English could be consulted by all those who wanted to get any knowledge about mining, trade, agriculture, natural resources, banking, developments or opportunities of any kind. During the seven years of civil strife, very meagre and incomplete data has been available and every year the necessity of some reliable source of information was greater.

The library of the National Association of Manufacturers keeps one copy of the Mexican Year Book for the service of our members and welcomed visitors.

Chilean Conditions Irregular

COMMERCIAL attaché C. A. McQueen, at Santiago, Chile, reports the reappearance of speculation on a somewhat magnified scale, in anticipation of the Government loan for some \$16,500,000 recently placed in the United States, and a smaller supply of nitrate drafts, were disturbing factors in the exchange market, resulting in a drop in the value of the Chilean paper peso, in relation to the dollar, from an average of \$0.13½ for October to \$0.12½ for the first twenty-two days of November. However, this still compares very favorably with the average for November of last year, when the peso was quoted at \$0.10½. That this does not reflect a weakening of confidence in the general business condition of the country is evident by the reduction in bank rates and the easy condition of the money market.

A satisfactory improvement in Treasury receipts is indicated by a marked increase in customs collections for the month of October, amounting to 11,000,000 pesos, which is approximately 15 per cent more than the July receipts from that source. On October 31 the amount of paper currency in circulation was reported as being 263,000,000 pesos, showing an appreciable reduction from previous figures.

In view of the deficits in the Chilean budgets of recent years, the announcement of the Minister of Finance that the budget for 1923 will balance is most encouraging. The proceeds of the foreign loan, recently placed for the purpose of meeting budget deficits, will be left abroad to meet the service on the exterior debt.

An increased flow of American investment capital has been apparent, going principally into real estate mortgages, bonds, and mining property. Losses of capital in the recent earthquakes will probably not seriously affect foreign trade.

The total value of the principal articles imported during the first six months of 1922 amounted to 95,395,751 gold pesos, while exports for the same period amounted to 276,091,455 gold pesos. October showed a general increase in the amount of exports and imports over the preceding month.

Nitrate shipments during the month amounted to 208,000 tons. Panama Canal reports show a little over 150,000 tons passing through the canal during the month—the highest since February, 1921, when 191,928 tons went through. Nitrate sales since July

1 have totaled 1,050,000 metric tons.

Exports of bar copper for the eight months ended August 31 amounted to about 83,464 tons, as against slightly less than 40,000 tons for the same period last year.

Due to a temporary shortage of shipping space, October exports of other commodities were small, with the exception of such staples as iodine and borax. However, the importance of these other products is so small in comparison with nitrates, copper, iodine, and borax that they have little influence on the general situation.

It is probable that wool is moving better than last year, although very few facts are obtainable from the Punta Arenas district. Stocks of wool in that district are embarrassingly large, according to general report.

Imports have been active with regard to steel, textiles, and supplies for native industries. The automobile demand is reviving. The prospect for increasing American trade in all lines

is relatively excellent, due to the weakening of German exporters in maintaining qualities and deliveries.

According to figures obtained from the American consul general at Valparaiso, the total Chilean imports for the first six months of 1922 amounted to \$37,000,000, while exports totaled \$53,000,000. For the same period last year imports were \$93,000,000 and exports \$110,000,000.

The levy of an import duty on coal, coke, and crude petroleum is being urged, and such a measure will be submitted to Congress.

A proposal is now under discussion for remitting the import duty on railroad materials up to \$500,000, upon condition that the railroads devote this sum to the construction of homes for their employees.

Approval by Congress of the Washington protocol, regarding the Tacna-Arica controversy with Peru, now seems assured. The protocol was ratified by the Peruvian legislature some time ago.

FOR SALE



All Buildings Shown in This Picture are Included in the Plant

Unusual opportunity to acquire complete vegetable oil refinery, hydrogenation plant with ice plant and refrigeration and ample floor space for other finished food products; factory floor space, including residential building approximately 80,000 square feet; land 10 acres, waterfront on Hudson; 20 miles from New York; macadam road; railroad sidings; storage tank capacity 500,000 gallons.

Also adaptable for chemical industries, etc. Office building with complete laboratories, residential building, machine shop, garages, etc.

Address Factory, American Industries

FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

BRITISH WEST INDIES

Glassware, leather for shoe manufacturing, particularly glazed kid, patent, etc., fancy dress piece goods, balbriggins underwear, light woolen suitings and white and pitch pine lumber. A firm of manufacturers' agents covering the British West Indies, the Guianas and Venezuela, desires to secure American agency connections in the above lines. (688)

JAMAICA

Glass fruit and preserve pots for Jamaica. The inquirer desires to secure the agency of an American manufacturer. Firms interested are requested to send full particulars and samples of glass jam pots with metal screw covers, waxed cardboard washers, prices, discounts, terms and commission, together with agency terms and conditions. (689)

ARGENTINA

Textiles and knit goods generally for Argentina. A merchant and manufacturers' agent in textiles, etc., desires to secure American agency connections for business on a large scale. (690)

COLOMBIA

Machinery for the manufacture of all kinds of dry confectionery, such as sugar-coated nuts, bon-bons, almonds, fruit candy, chocolates and

sugar bon-bons containing liquors or cream; machinery for the manufacture of sweet and salted crackers; machinery for the manufacture of soda waters and also for bottling and corking same in pints; also violet-ray outfits for sterilizing water, all for power drive with electric power. Catalogs with price lists and discounts are requested. Correspondence in Spanish. (691)

CHILE

Cereal preparing machinery for manufacturing breakfast foods is of interest to a firm of merchants in Chile. (692)

Aluminum solder for Chile is of interest to a firm of merchants. Correspondence in Spanish. (693)

Machine tools and apparatus of all kinds for the chemical and pharmaceutical industries on a small scale; raw materials for the same industries, paper boxes, glass, porcelain, metals, corks, etc. A firm of druggists and chemists desire to receive catalogs, quotations, etc., on the above. Correspondence in Spanish. (694)

Notions and dry goods for Chile, more particularly cotton and thread hosiery, sewing threads, needles, shoe laces, pearl buttons, elastic

webbings, and celluloid and rubber combs. The inquirers desire to secure American agency connections in the above. (697)

PERU

Phonograph records for Peru. The inquirer desires to secure an American agency in the above and adds that he would also buy large quantities for his own account. He desires samples, prices and discounts for lots of 2,000 or more. Correspondence in Spanish. (695)

CUBA

Druggists' bottles and glassware for Havana; also table tumblers and goblets and glassware, cheap chinaware and pottery, hardware and small kitchenware including enameled hollow-ware, etc., is of interest to a firm of merchants and manufacturers' representatives in Cuba. (685)

Jingle bells for carnival use, wooden tops, dolls with paste heads, feet and hands and cloth bodies; silver plated articles of low and medium price, fancy glass vases of low and medium price, are of interest to a dealer in Havana. Correspondence in Spanish. (686)

Leather and skins of all kinds for the manufacture of boots and shoes

WATER

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LATIN AMERICA

Active Business Man

with 10 years' Latin-American mercantile and social experience seeks connection with manufacturing or mercantile house for purpose of either permanent representation or investigation trip in those countries. Also ready to discuss very favorable and economic proposition for the representation of group of non-competitive manufacturers, who may want to show their products at the Brazilian International Exposition at Rio Janeiro this winter. Speaks Spanish, French and German. Best of references, bank and others.

Address "O. W. B.," American Industries, New York.

American manufacturers interested in reorganizing or reshaping an already established

DIRECT EXPORT BUSINESS

or in going after it on a sufficiently vast scale, or in a level-headed, ambitious—neither pessimistic nor unduly optimistic—manner, are invited to send their names, with indication of the official to be communicated with and also the nature of products (if not obvious), and by circular matter already prepared, they will at once receive preliminary information.

A. HOBEC

1485 Metropolitan Avenue
Brooklyn, N. Y.

is of interest to a shoe manufacturer in Cuba. Correspondence in Spanish. (687)

Pharmaceutical supplies and chemicals of all kinds, silver-plated, nickel-plated and aluminum goods, chinaware, porcelains, glassware are of interest to a merchant in Havana. (696)

INDIA

Printing and writing paper and stationery of all kinds is of interest to a firm of stationery and paper importers in India. (698)

GREAT BRITAIN

Representation in Great Britain. An American, long resident in London, offers his services to American manufacturers of labor-saving devices, particularly in personal, household and commercial equipment, who desire to be represented in England in an effective manner. (699)

CANADA

Wrenches and pliers for Canada. A firm of manufacturers' agents desires to secure American agency connections. (700)

INDIA

Replacement parts for popular motor cars and trucks; also a low-priced small car with good hill climbing power for India. A firm of merchants and importers specializing in automobiles and supplies desire to hear from makers of the above. (701)

SOUTH AFRICA

Windmills for lifting 100 to 200 feet and force up an incline 200 feet through 1 1/2 inch pipe; threshing machines for Teff Grass and other products; oil engines for lifting and forcing water; Teff Grass planters, adjustable cultipacker, land rollers, hand pumps, hose and sprays and special motor trucks for carrying milk and cream to market, are of interest to an inquirer in South Africa. (702)

MEXICO

Notions, hardware, patent medicines and optical goods are of interest to a merchant in Mexico. (703)

American representation for Mexico. An American with technical education and experience in construction and engineering work, including hydro-electric plants, etc., with knowledge of mining machinery, railway equipment, steel and iron foundry supplies and products, etc., desires to secure American agencies. (704)

Machinery and apparatus of all kinds for spinning, weaving and knitting silk is of interest to an inquirer in Mexico. (705)

How Much Should Your Dollar Earn?

Those dollars you have worked hard for and laid by—how much should they earn for you?

Nineteen years ago Roger W. Babson discovered that a definite law governs securities and their earning power—a law that enables you to figure in *advance* whether the price of your securities will be higher or lower—whether the companies back of them will be stronger or weaker—whether they will earn more or less.

Babson's REPORTS

These principles have been worked out into what has come to be known as the Babson Method—a plan that is followed today by thousands of the keenest executives; a plan that enables them to enjoy half again to twice the usual return without the risk, worry or loss of time involved in ordinary investment and speculation.

Principle Holds True

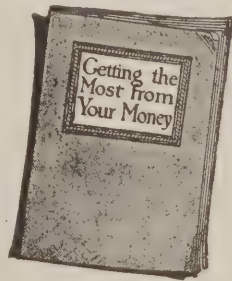
This is the method followed now by men investing hundreds of thousands but the principle applies to every single thousand dollars of investment.

Write for Booklet

You will find the whole story—principles and all—in the booklet, "Getting the Most From Your Money."

Tear Out the Memo

—now—and hand it to your secretary when you dictate the morning's mail. No obligation.

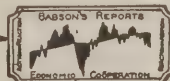


..... Clip off here

Memo for Your Secretary

Write Babson's Statistical Organization, Wellesley Hills, 82, Mass., as follows: Please send me Booklet C71

"Getting the Most From Your Money," gratis.



ARGENTINE and URUGUAY

Representation for the Argentine and Uruguay of reliable American manufacturers of goods sold to hardware and paint trade (except paint and varnishes) solicited by a man of experience, already representing SAPOLIN Decorative Specialties.

References can be obtained from the manufacturers Messrs. Gerstendorfer Bros., 231 East 42nd St., New York City.

F. Alvarez de Toledo, Pasa-je Belgrano 15, Buenos Aires.

MANUFACTURERS

desiring representation in

South Africa

can have their interests well protected and distribution for their products adequately arranged by

**The Distributing Service
Company**

P. O. Box 5061

JOHANNESBURG

Reference: The National Bank
of South Africa, Ltd.

Correspondence invited

CUBA

Wooden packages for keeping fruit pulps for preserves; tin packages for preserves, etc.; parchment paper, poster paper, tin foil, glassine paper, wood pulp and paper used in the confectionery trades; tin can machinery; machinery for making small wooden boxes with slip covers; automatic wrapping machines; macaroni, vermicelli and noodle machines and machines for manufacturing butter are of interest to a firm of confectionery and preserve manufacturers in Cuba. Correspondence in Spanish. (706)

Automobile accessories in general are of interest to a firm of merchants in that line in Havana. (707)

Paper, wire of all kinds, tinplate, general hardware, textiles, hosiery, nails, chemicals and allied lines are of interest to a firm of merchants and manufacturers' agents in Cuba. (708)

ARGENTINA

Cotton, woolen and silk yarns for knitting mills, particularly cotton yarns, mercerized and unmercerized; also cotton twines and similar products. The inquirer is a specialist in yarns and desires to secure American agency connections for Argentina. (709)

Soda water and ice making machinery is of interest to an inquirer in Argentina who requests catalogs and quotations. Correspondence in Spanish. (710)

CHILE

Hardware, textiles, hosiery and chemicals; also technical appliances of all kinds for use in railways are of interest to a merchant in Chile, who claims to have special connections with the State Railways of his section. (711)

PERU

Paints, wallpaper, paint oils, bristle and hair brushes, varnishes, enamels, locks, hinges, latches, trunk locks, nails, screws, carpenters', masons', and blacksmiths' tools and similar articles are of interest to a merchant in Peru. Correspondence in Spanish. (712)

SALVADOR

Leather for shoemakers, also shoemakers' supplies and findings are of interest to a shoe manufacturer in Salvador. Correspondence in Spanish. (713)

SPAIN

Brass and copper sheets, tubes and rods, aluminum and alpaca sheets; brass wire of Paris gauge and regulus of antimony are of interest to a metal merchant in Barcelona. (714)

Machinery for the manufacture of matches, match box and paper boxes

is of interest to a firm of match manufacturers in Spain. Correspondence in Spanish. (715)

Stationary illuminated signs for store fronts and posters, advertising signs, advertisements of all kinds for railways, stage curtains, street signs, balloons; in fact, advertising specialties and goods of all kinds are of interest to a firm of merchants in Spain. Correspondence in Spanish. (716)

CANARY ISLANDS

Steel anchors, hose, spades, carpets and linoleum; bed springs and mattresses, carriage axles, general hardware, particularly marine hardware, nails and chairs; leaf tobacco; hosiery of all kinds, boots and shoes, textiles; crockery; carriage hardware, cart wheels; buttons of all kinds; sole and upper leather for boots and shoes. A merchant in Spain desires to hear from American manufacturers, stating that all his purchases are made in cash through a New York bank. (717)

IRELAND

Paper of all kinds, school and business books, stationery, inks, pencils and allied lines are of interest to a manufacturers' agent and merchant in Ireland. (718)

FRANCE

Machinery and tools of various kinds, which will have to be sold on their merits and require intelligent engineers as salesmen, are of interest to a firm of manufacturers' agents in France. (719)

BELGIUM

Plywood making machinery for Belgium. The inquirer desires to erect a plant for the manufacture of plywood and is interested in securing catalogs and quotations on American-made machinery. (720)

HOLLAND

Lace curtain nets for Holland. The inquirer desires to secure an American agency connection in this line. (721)

Rosin and turpentine oils are of particular interest to a firm of wholesalers in Holland. (722)

NORWAY

Machinery for watermarking paper is of interest to a paper manufacturer in Norway. (723)

GREECE

Cotton sheetings, flour, cereals, alcohol and other colonial products for Greece. The inquirer desires full agency rights. (724)

GERMANY

Heavy chemicals and pharmaceuticals, oils and greases for all industrial purposes, etc., are of interest to a firm of merchants and agents in the chemical lines in Germany. (725)

RUSSIA

Investigation of the Russian market for American manufacturers is offered by a Swiss business man familiar with business in various parts of the world, including the United States. He proposes to go to Russia, visit the leading and industrial centers and also those of adjoining states, looking up the personal conditions of business houses and reporting in detail on prospects for the sale of manufactured articles and means by which such sales can best be effected. He is now in Paris and offers his services to American concerns that might be interested in unbiased views regarding Russian firms as customers at the present time. (726)

AFRICA

Charcoal gas generators for tractors, also tractors of 70 to 75 H. P. (727)

BRITISH AFRICA

Rice making machinery for British

East Africa. The inquirers desire catalogs and price lists. (728)

SOUTH AFRICA

Axes, hatchets, cane knives, locks and latches and builders' hardware generally, also allied lines, are of interest to a manufacturers' agent in South Africa. (729)

AUSTRALIA

Paper cups for sundaes and drinks, together with holders for same; silver sundae servers; silver tea sets for restaurants, plated teapots, drink shakers of aluminum in various grades; electric drink mixers; round, oval and oblong aluminum trays, paper napkins and doilies; cone dispensers and carriers, nut cutters and crushers. A firm of merchants in Australia specializing in the confectionery and supplies line desire to hear from makers of the above. (730)

NEW ZEALAND

News, printing, Manila, wrapping, waxed bread and meat wrapping paper; envelopes and paper bags; engineers' cotton waste; druggists' sundries and general office specialties, are of interest to a firm of manufacturers' agents in New Zealand. (731)

INDIA

Equipment for an up-to-date iron and brass foundry is of interest to a firm of founders and engineers in India. (732)

Yarns for India. Silk, spun silk, woolen, worsted, cotton, mercerized, linen and artificial silk yarns in different counts of fine and coarse qualities for weaving and knitting. The inquirers are textile manufacturers and state that they buy in large quantities. They state they will place orders through Bombay agents or bankers on receiving samples and prices. (733)

Paper and hand vises of all sizes and types; wire nails of various gauges, blue cut tacks, black cup and head coach bolts with square nuts are of interest to a firm of machinery and hardware merchants in India. (734)

Grease proof or hard vegetable parchment paper for packing butter, size 20x30 in, weight, 17/18 lb. per ream, is of interest to a firm of butter manufacturers in India. (735)

Yarns and piece goods for India are of interest to a firm of general merchants in Madras. (736)

CHILE

Newspaper machinery and supplies of all kinds such as presses, type casting machines, paper rollers, engraving machines, electric proof presses, mailing machines, hand mailers, stereotype outfits, wood floor mats, etc. for Chile. The inquirers desire to secure American Agency connections with firms well introduced in the United States. (737)

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Is it in circulation? Or lying useless in your vault? Are you fully satisfied with it?

Is it up-to-the-minute technically as well as artistically?

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The motion picture is a definite branch of publicity and merchandising. Many a campaign is incomplete without it. Printed publicity is a powerful force, but each reader visualizes it in accordance with his individual understanding. The motion picture does this for him more effectively.

Let us "reincarnate" that film you are so disappointed about. And help you get it in circulation. Let it again be your most effective salesman. Turn a liability into an asset.

We also conceive plans, construct scenarios and produce new motion pictures for both standard and safety size projectors. Our experience and equipment is complete.

Write us to-day about that motion picture problem.

We have the solution.

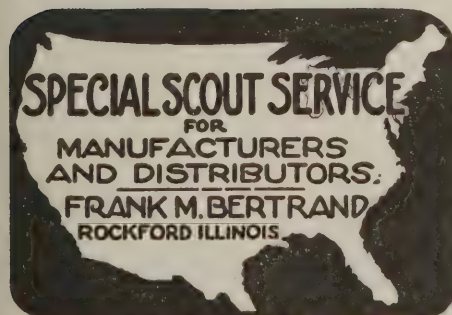
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To Attract 100% Attention Tell Your Story With Motion Pictures

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FOREIGN DIRECTORIES FOR SALE

1. The World's Merchants, Manufacturers, and Shippers. Published by Kellys Publishing Co., 2 volumes, 1921 edition. Original cost \$40.00. Selling price, \$10.00, without postage.
2. South African Merchants, Manufacturers, etc. for 1921. Comprises separate trades and professional directories for 2,000 townships and districts of Cape, Transvaal, Natal and Orange Free States provinces, together with maps. Original cost \$12.00. Selling price, \$3.00, without postage.
3. Norwegian Merchants, Manufacturers, etc., for 1920-1921. Gives details of business of firms throughout Norway, together with maps. Published in the Norwegian language. Original cost, \$15.00. Selling price, \$2.00, without postage.
4. Danish Merchants and Manufacturers for 1920. 2 volumes. Published in the Danish language. Original cost, \$10.00. Selling price, \$1.50, without postage.
5. Egyptian Merchants and Manufacturers, etc., for 1919. Printed in the French language. Original cost, \$4.00. Selling price, \$1.00, without postage.
6. The Indian Guide and Directory for 1920. With complete maps, and arranged according to towns and classifications and also alphabetically. This Directory covers Bombay, Calcutta, Karachi, Madras, Rangoon, Burma stations, Mesopotamia and South West Asia. Original cost, \$8.00. Selling price, \$1.50, without postage.
7. Mines Handbook and Copper Handbook, 1920. Published by H. Weed. Well arranged, giving a record of active mining companies throughout the world, glossary of mining terms and statistics. Original cost, \$15.00. Selling price, \$3.00, without postage.

Address Foreign Department
**National
Association of Manufacturers**
50 Church Street, New York

Foreign Trade Awakening

Remarkable, nation-wide interest in foreign markets, reflected by a 400 per cent increase in inquiries directed to the Department of Commerce by American business establishments of all kinds, during 1922 over 1921, is disclosed in the annual report of Director Julius Klein of the Bureau of Foreign and Domestic Commerce, made public recently.

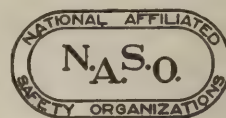
The report, covering the fiscal year ended June 30, 1922, indicates that nearly 600,000 letters, each one dealing with a specific foreign trade problem, and thousands of routine inquiries, were received and answered by the Bureau during the period mentioned. The number per day, increased from 1,000 in July, 1921, to nearly 3,000 at the close of the year on June 30, 1922.

More than 50,000 manufacturers and merchants called in person during the year at the Bureau's branch offices in the leading cities to discuss export matters. Over 350,000 confidential circulars (each on a given trade prospect), and nearly 1,000,000 lists of prospective foreign buyers were prepared for the use of business men.

The largest Italian contract awarded in years, amounting to \$13,000,000 was secured for an American firm through the help of the Bureau's office in Rome. The rights of American shippers of goods valued at \$68,000,000 to \$80,000,000, caught in the port congestion in Cuba, were successfully safeguarded through the aid of the Bureau's Havana representative. The Vienna office enabled an American concern to obtain an order for \$1,500,000, and the Madrid office saved for American exporters contracts in Spain covering 100,000 tons of wheat.

Through an effective arrangement with several hundred newspapers and trade journals reports of the Bureau are now made immediately available to between 5,000,000 and 10,000,000 readers regularly, compared with a few thousand the previous year. As a result of a new system of press releases, one of the Bureau's most important services involving specific market openings in all parts of the world has been made simultaneously available in every section of the United States, for the first time.

Describing the fiscal year 1921-22 as "one of the most crucial periods in the history of the nation's foreign trade," Director Klein points to the complete reorganization of his Bureau under Secretary Hoover's direction as the prime factor enabling it to help American export interests withstand the "inroads of recovering European competition in the world's markets."



Safety Devices

Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

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First Aid Jars—Emergency outfit especially developed for industrial use.

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Shaft Protector—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

Com RR

AMERICAN INDUSTRIES



APRIL
1923
Volume XXIII
No. 9

ROMANCES OF INDUSTRY—COTTON

Published for the National Association of Manufacturers

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IN THIS ISSUE

Cover illustration: Picturesque Mississippi River Steamboat Loaded with Cotton.
Photograph published through the courtesy of the *Industrial Digest*.

ROMANCES OF INDUSTRY—COTTON	- - - - -	Page 5
By C. A. Carriere.		
TARIFF INQUIRY ON SEVENTEEN COMMODITIES	- - - - -	10
THE COMMUNISTS AND THE NATION	- - - - -	11
By Noel Sargent, Manager Open Shop Department, National Association of Manufacturers.		
MISEDUCATION OF EMPLOYEES	- - - - -	12
THOSE UNSETTLED WAR CLAIMS	- - - - -	13
By George R. Shields, of King & King.		
WHY VETERANS GO BACK TO SCHOOL	- - - - -	15
By Dr. Joseph French Johnson, President, Alexander Hamilton Institute.		
BETTERING THE INDUSTRIAL FILM	- - - - -	17
By George J. Zehrung, International Y. M. C. A.		
BITS OF NEWS ABOUT MEN IN INDUSTRY	- - - - -	18
PORTS OF THE NATION—GALVESTON	- - - - -	19
By I. D. McMaster, Secretary, Galveston Commercial Association.		
EDITORIAL	- - - - -	24
MINNESOTA'S BRICKLAYING SCHOOL	- - - - -	26
By A. V. Williams.		
PUTTING COURTS ON A BUSINESS BASIS	- - - - -	27
By Thomas W. Shelton, Chairman, American Bar Association Committee on Judicial Procedure.		
WORLD TRADE	- - - - -	32
TRADE MOVE TO STABILIZE THE WORLD	- - - - -	32
CUBA AND HER TOBACCO INDUSTRY	- - - - -	33
By B. MacLennan, of Henry Clay and Bock & Company.		
FRANCE'S NEEDS; EUROPE'S DANGER	- - - - -	38
By Joseph Caillaux, formerly Premier of France.		
FOREIGN TRADE OPPORTUNITIES	- - - - -	41



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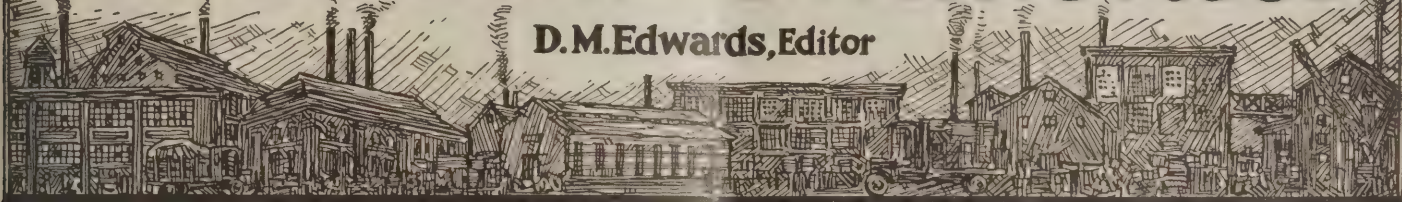
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American Industries

D. M. Edwards, Editor



Vol. XXIII

APRIL, 1923

No. 9

Romances Of Industry—Cotton

Origin shrouded in antiquity but its greatest development was found in this country where its exports from New Orleans alone grew from 400 bales in 1799 to 3,876,630 bales just after the war

Written especially for AMERICAN INDUSTRIES

By C. A. CARRIERE

COMMERCIALLY speaking, cotton stands king among the important staples of the world. Its origin is shrouded in antiquity. There is no doubt, however, that it first took root in Asia, the oldest and first country inhabited in the Old World. It may have been one of the many plants that ornamented the "Garden of Eden"; who knows? The word cotton is the Arabic word Kotton. It has been anglicized in India since the beginning of history. It is certain that the ancient Jews knew something about it, for the reason that "Charpas," the oriental word for cotton is used in the Book of Esther, Chapter 1, Verse 6, to describe this phrase: "There were white, green and blue hangings fastened with cords of fine linen and cotton."

We read that Herodotus, "The Father of History," about 445 B. C. portrays a wild tree in India that bears a wool-like fruit from which the natives made a serviceable cloth that delighted the eyes.

Marco Polo, the renowned Italian traveler, in his book made famous for the description he gave of Asia, men-

tioned among the most beautiful things that charmed his eyes, "a cotton tree six yards high that bore twenty years."

Pliny assures us that it was known in Upper Egypt, and describes it as a wool-bearing tree. Historical facts inform us that Xerxes clothed his army with cotton cloth. The ancient Greeks knew nothing of this valuable plant; it is only in after years that their knowledge of cotton developed.

The Chinese grew cotton hundreds of years before they made use of it. Reciprocal dealing with the people of India soon enlightened them as to the many uses of this bountiful commodity. The Moors are responsible for having introduced cotton in Spain in the tenth century. It is only in the sixteenth century that France makes mention of it.

How and by what way or means it came to the continent of America, is unknown. When Columbus, in his youthful days visioned the New World, it is possible that, at that time the natives of India coming forth to the same world with the streams of the ocean and the gust of the wind for their only guide, thought, through

their own ingenuity of bringing with them some products of their country. It is safe to say that among the productive plants that have helped to make America so prosperous we owe this one to the Indians.

When Columbus landed on the island of San Salvador, he found the cotton plant growing abundantly. He learned from the Indians that they made yarn of the fleece, and with this yarn they knitted fish nets, hammocks or swinging beds. Columbus and his men exchanged some of their belongings for some balls of yarn. It can therefore be said without any hesitation that cotton products were used by the Indians as the basis of the first negotiation made between a foreign country and the Continent of America.

The history of the Conquest of Mexico relates that Cortez found the Mexicans wearing clothes made of cotton. Among the things presented to Charles V, by Cortez were: cotton mantles, some white, others mixed with colors; tapestries of various colors, and carpets of cotton.

When and whence the cotton plant

THE NATION'S INDUSTRY IN CONVENTION

Every manufacturer interested in the foreign or domestic problems that affect his business should attend the Twenty-Eighth Annual Convention of the National Association of Manufacturers, May 14, 15 and 16, at the Waldorf-Astoria, New York City.



Typical Cotton Picking

(c) U. & U.

was first introduced into Mississippi and Louisiana is not exactly known, it is supposed to have been brought in by the early French colonists from San Domingo. It would seem likely that the cultivation of cotton in the above named states for home consumption, preceded that of Georgia.

In well informed circles we read that in 1721, great efforts were made to grow cotton in Virginia. The first exportation worthy of mention and consisting of eight bags, weighing 1,200 pounds was made from that state in 1784.

When Francis-Xavier de Charlevoix, a Jesuit Father and a noted explorer visited Natchez in 1722, he was courteously received by Sieur Le Noir, a settler. While visiting the latter's garden "cotton" was among the products he admired and made mention of.

In one of Bienville's statements, dated in April, 1735, he referred to the cultivation of cotton as "being beneficial to the country."

Judge Martin, the famous historian, cites a passage from a dispatch of Governor de Vaudreuil, 1746, to the French Minister in which he alluded to cotton among the commodities received by the vessels which came down yearly to New Orleans. It was during his administration in 1750, that the first shipment of cotton was made.

The King of France, Louis XV, in 1758, was in need of information to stimulate the wonderful possibilities Louisiana possessed. To enable his Monarch and the people of France to judge of the resources of Louisiana, and its commercial advantages, Lepage du Pratz wrote his history intended for this sole purpose. Speaking of cotton he says: "The cotton that is cultivated in Louisiana, is of the species of the white Siam; although it is not so soft to the touch and as long as the silk cotton, yet it is extremely white and fine, and can be used to good advantage. The cotton plant does not reach the height of a tree as it does in India, and it is more productive in active soil than it is in lofty soil." He also mentioned that the cotton after having been picked, was cleared of its seeds by children, a very slow and tedious process, which was for them more of play than work. This fact he infers was a difficulty that hindered the progress of cotton and disgusted the Louisianians with its cultivation. This difficulty suggested to them the necessity of having some device to separate the seeds; hence the cotton gin was used. He brings out the fact that it gave him the opportunity of inventing one. "Theirs, he says are very costly; mine is made of plain wood and is very simple to operate. I made the test, and its

demonstration proved a success. Two residents, I have instructed in the operation of it; they seem well pleased, and promised to make use of it would I attend to its construction myself."

This statement from Lepage du Pratz, written at about that time, takes one back to the first days of the settlement of the French colony in Louisiana. The celebrated historian while in New Orleans became well acquainted with Bienville; there are reasons to believe that the authentic documents were given him by the "Father of Louisiana."

This report would prove that gins were used in ancient time. We hear of one invented by Debreuil, which was used in Louisiana as early as 1750. It is certain that in 1769, cotton was a very important product in that state; for we read in Gayarre's history that O'Reilly, then Spanish Governor in New Orleans, urged his home government to permit a free interchange of commodities between Spain and the colonies, especially New Orleans.

It would be appropriate in this place to introduce a notice of the remarkable progress and improvement in the machinery for separating cotton wool from its adhering seed. Prior to the invention of Eli Whitney's cotton gin, may be mentioned an invention of James Hargreaves, who at Standhill, England, in 1764, made what was known as a spinning-frame; consisting of eight spindles and a horizontal wheel. This machine he named the "spinning jenny." Later, about the year 1768, Richard Arkright, at Preston, England, put into use a machine known as a "spinning frame," which he greatly improved in 1775. Again in 1779, Samuel Crompton, at Bolton, England, introduced a machine which having a similarity to Hargreave's "jenny" and Arkright's frame, he called a "mule."

The first gins used in Georgia were the foot or treadle gins; these are supposed to have come from the West Indies. A man named Eaves introduced one in 1790, which proved more successful than the treadle gin; he used water, horses, mules or oxen to operate his gin. South Carolina first made use of the hand roller gin, but a machine called the "barrel gin" was also used occasionally.

Then in 1793, Eli Whitney's gin became known. It is deemed necessary here to say a word of this man of genius. He was a native of Massachusetts, born in 1765. He was graduated at Yale College in 1792. After his graduation, he was offered a position as private tutor with a family in the State of Georgia, which offer he accepted. Not finding his tutorial



Typical Mississippi River Cotton Boat on the Levee

(c) C. L. Franck

duties congenial, he left that family and diligently set himself to the study of law. It was during his stay in that state that he began the work which made his name stand forever among the great inventors of the world. Lord Macauley said of Eli Whitney, "What Peter the Great did to make Russia dominant, Eli Whitney's invention of the cotton gin has more than equaled in its relation to the power and progress of the United States." Too much can never be said of this man of immortal fame. The South is indebted to him for much of her wealth and prosperity.

Cotton is the world's most important fiber plant. The botanists give to it the generic term, *Gossypium Peruvian*, belonging to the *Monadelph* class of plant. The vast supply that is needed for various commercial industries makes it indispensable. It is used to clothe the most of mankind; in the making of gun-cotton; different explosives; munitions; and various uses entirely too numerous to be given in this article.

Nothing would seem more interesting than to follow the evolution of cotton, from the planting to the flower, and capsule; from the picking to the ginning; from the baling to the marketing, thence to the reach of the wearer. A description of the various species of cotton and cotton plants is now given: The cotton plant as

generally grown in the United States

is of a bushy form, usually three to five feet tall. In a very fertile soil, it attains the height of ten feet. In India, Brazil and Peru it grows spontaneously, is perennial and is known as the cotton tree.

The original varieties of cotton known to the world are: The Herbaceous, or herb cotton, The Hirsutum, hairy cotton, The Arborescent, or tree cotton.

The cotton grown in the United States originated from these species; our upland cotton came from the first two varieties, our Sea Island from the third. But little of the last named variety is grown in the United States.

The cotton plant consists of an erect stem, from the nodes of which branches spread; the longest near the base of the plant, the shortest towards the top; giving it a pyramidal shape. The leaves are broad and indented, usually three lobed; they vary somewhat in size and shape, even on the same plant. The flower, large and pretty, is cup-shaped, from two to three inches in length. The bloom is a pale cream on the morning that it opens, the following day it changes to a pink color, then, closing gradually for the next day or two withers and drops off.

The pericarp, wherein is contained the seed and lint is called the boll. When the boll or capsule is fully matured, it bursts open, exposing the



Loading Cotton Trains at the Terminal

(c) U. & U.

membranous seed-vessel to which the locks of fiber or lint adhere. Cotton is not picked until the boll is well opened, which permits the sun and air to mature the fiber. The longest fiber is ordinarily the finest, and is used in the manufacture of the most costly cotton goods. Next to the fiber the most valuable product of the cotton plant is the seed. The United States consumes annually as many millions of tons of seeds as millions of bales of cotton.

The best of it is saved for the annual planting. The majority of it goes to the oil mills, where the oil is extracted and the resulting cake is used as a food for cattle and sheep. The raw seed and the cake are extensively used as fertilizers.

The American upland short staple, and the long staple varieties constitute the most of the crop grown in the United States. Sea Island cotton which is superior in length and quality of fiber is used in the manufacture of the finest cotton fabric and expensive laces. Its cultivation is limited to a few of our states on the Gulf Coast, South Carolina, Alabama, Georgia, Florida, and the Salton Basin, being the chief sources. In Louisiana, it was not until that state was admitted into the Union that Sea Island cotton was introduced. Louisiana is rich in soil, and offers especial inducement to the cotton grower of the state; her climatic condition gives her agricultural advantage that is not offered by any other state in the Union. There is no other land so fortunately situated for the raising of cotton; Mother Nature has enriched her with wonderful possibilities and resources. Besides Sea Island cotton, Siam cotton is now cultivated successfully in Louisiana.

Next in quality of fiber ranks the Egyptian cotton. There are two varieties: the white lint and the brown lint. The valley of the Nile is made beautiful by the luxuriant growth of this valuable staple. The United States imports yearly several thousand bales of it, which is used in the manufacture of all mercerized goods, because of its silky luster.

Cotton can be raised on any land, provided it is made ready for cropping, with the proper amount of fertilizing. The mode of preparing a cotton field for seeding is an expensive item. Considerable care in the tillage is required, when satisfactory results are expected. February and March are the months in which plowing time begins; this consists in forming ridges or beds. The fields are generally plowed from three to four inches deep; although a depth of six to eight inches is regarded as a good preparation, and should be attained by gradual increase, that is, by plowing an inch deeper each year

until the proper depth be attained. Planting begins about the middle of March or in April in the central part of the Gulf States and also in the states that are situated near the Gulf of Mexico. In deep furrows, the seeds which are round and black, about the size of a pea, are drilled in, this process is done by hand or with an implement. The ground is then harrowed, which smoothes and compresses the loose soil over the seeds.

Cotton picking is the most expensive process connected with the cotton culture. Most of the cotton picking is done by hand; and generally begins in August and lasts until November.



Stacking Cotton by Elevator in the Warehouse

When picking season comes, all the farming community is used, men, women and children. The cotton is gathered into sacks or baskets, which are emptied from time to time, into a wagon which stands in the turn row.

Then comes ginning. This is done by machines propelled by steam, which separate the fiber from the seeds; then, it is ready for baling.

There are two leading types of gins, roller and saw gins. The former are used to gin Sea Island and all varieties of long staple cotton. The latter are adapted to ginning short staple cotton.

After the cotton has been fleeced from the seeds, it is carried to the press, to be compacted into bales, usually of 500 pounds each. Cotton that is destined to be exported, is shipped to "compresses" where it is condensed by applying high pressure.

The price of cotton is determined according to the grade of the fiber. The classing of cotton is a cautious study, and it demands untiring efforts to become so expert that the most promising fiber can be recognized at a glance.

There are seven principal grades of cotton, namely: Fair, middling fair, good middling, middling, low middling, good ordinary, ordinary.

The grade of the fiber depends chiefly upon its length, the snow white fiber or very light cream are those most in demand.

In order that some idea of the tremendous increase in cotton growing, which was due in a large part to Eli Whitney's invention, the following figures are interesting: The Marquis de Pontalba in 1800 made a report to the Emperor Napoleon stating that in 1799, 200,000 pounds, or 400 bales of cotton were exported from the city of New Orleans. Whitney's gin, invented in 1793, began to come into general use early in the nineteenth century. In 1802 the exports from New Orleans were 6,000,000 pounds or 12,000 bales. By 1850 or just prior to the Civil War this amount had grown to 178,737 bales, and cotton had become king. In 1890 exports from the city of New Orleans had reached the enormous total of 604,661 bales. A steady growth, since that time, of approximately 100,000 bales per year, gave a total of 2,351,660 in 1910. In spite of the Great War and its paralyzing effect on all exports, the years 1920 showed a total of 3,876,630 bales, and 1921 cleared 2,950,000.

Co-incident with the growth of cotton has been the growth of the facilities for handling this "King of Crops." It would be appropriate in this place to introduce a notice of the remarkable progress and improvement in New Orleans cotton warehouses. New Orleans is located nearer the center of gravity of the cotton production of the Union than any other port, being situated at the mouth of the greatest system of inland waterways in the world. Both the commercial and industrial advantage of her harbor give reason for the importance of having these cotton warehouses, under control and operated by the Board of

Commissioners of the Port of New Orleans.

One of the most important functions of the New Orleans warehouses and terminal is to make the port of New Orleans a deposit market for cotton. Interior buyers are able to ship cotton to New Orleans to these warehouses, where the cotton can be held

subject to the order of the buyers, while equal facilities are afforded planters for storing their cotton until such time as it may be advisable to sell it.

The warehouses and terminal have a capacity of 2,000,000 bales annually. Cotton is received daily by rail and direct from the Mississippi River

steamboat and by steamers from other Gulf ports.

Whilst the cotton warehouses were built primarily for the handling of cotton these warehouses are sufficiently commodious to allow other commodities to be stored when the wharves become congested at any point.

BE A CONVENTION SPECIALIST

May is a month of conventions. You cannot attend all of them.

Select the one that will be of the greatest value to you—the convention of the National Association of Manufacturers, because the organization's efforts are directed toward solving those problems that most vitally affect the manufacturer.

Waldorf-Astoria Hotel, New York City, May 14, 15 and 16.

Government Specification Standards

AN important step toward the elimination of differences between specifications for Government purchases and specifications for similar materials produced for the general commercial market was taken at the March meeting of the American Engineering Standards Committee, when it was voted to accede to the suggestion of the Federal Specifications Board that the American Engineering Standards Committee submit to the board for its information all standards which are being considered by the American Engineering Standards Committee for approval. In cases where standards before the American Engineering Standards Committee prove also of interest to any Government Department, the matter of their formal approval as Government standards may then be considered by the Federal Specifications Board.

The Federal Board has for some time used the machinery of the American Engineering Standards Committee to bring its specifications into harmony with the best commercial practice, thereby broadening its source of supply and lessening the cost of production. Under this arrangement, twenty-two specifications for Government purchases have already been submitted to industry for criticism in advance of their adoption by the Federal Specifications Board.

Through the presence of seven departments of the Federal Government in the membership of the American Engineering Standards Committee the Government has participated in the formulation of industrial standards. Now industry has an opportunity to participate as an adviser in the formulation of Government standards, thus minimizing the possibilities of dupli-

cated efforts toward standardization.

Following is a list of the Federal specifications which have already been submitted for criticism to industry through the medium of the American Engineering Standards Committee:

Hose for various purposes (thirteen specifications).

Wood Screws.

Sterilizing equipment.

Numbered cotton duck.

Phosphor tin.

Silicon copper.

Pig lead.

Creosote oil.

Asbestos millboard.

Insulated safes and cabinets.

Rubber bands.

Oil suction and discharge hose.

Snap switches.

Rigid conduit, enameled.

Dry cells.

Rubber insulated wires and cables.

Packing and gaskets.

Manila rope.

Coal tar pitch for roofing.

Surfacing materials for bituminous built-up roofing.

Sheathing paper and unimpregnated rag roofing felt.

Coal tar saturated rag felt for roofing and waterproofing.

Lumbermen To Draft Bill

Approaching the national forestry policy problem from an angle somewhat novel for Congressional committees, the Senate Special Committee on this subject just before adjournment, invited the National Lumber Manufacturers' Association, through its secretary and manager, Wilson Compton, to draft a forestry policy bill embodying the constructive views of the lumber industry. The request came at the end of the statement which Mr. Compton made to the committee outlining the views of the lumber industry as to the major factors of the problem of reforestation and its ideas as to how the matter can be dealt with practically and conformably to the peculiar conditions prevailing.

Axel Oxholm, chief of the lumber division of the Department of Commerce, gave the committee a general account of forestry practice in Europe, emphasizing that of Norway and

especially Sweden as having more bearing on what should be done in the United States. He pointed out that while forestry was more highly developed in France, Germany, Austria and Switzerland than in other countries, they were not examples for the United States because of the small proportion of forest land to population in those countries—about half an acre per capita—which made intensive forest administration more necessary and more economical than in such countries as the United States where there are five acres of forest land to every person, or in Sweden or Norway where there are nine and seven acres per capita, respectively. In the United States, especially on the Pacific Coast and in the southern states, Mr. Oxholm thought that reforestation was chiefly a matter of letting nature do it, by keeping out fires and encouraging natural reseeding.

Tariff Inquiry On 17 Commodities

President Harding has ordered the Tariff Commission to proceed immediately with investigations on applications filed for readjustment of existing customs duties. Seventeen articles will be on the first list

INSTITUTION of these investigations is the first step of the commission toward administering the elastic provisions of the Tariff Act of 1922, and came after a pronounced difference of opinion and hesitation within that body, which was only dispelled by an explicit definition of the wishes of the President. The investigations are to cover the production costs of the articles named both in this country and abroad, and after public hearings on each case the commission is to recommend to the President that tariff rates be increased or lowered as may be required to equalize the cost of production.

Without naming the applicants or whether relief was sought through higher or lower duties the commission listed the articles which are to be subject to investigation as follows: Oxalic acid, present rate 4c per pound; diethyl barbituric acid and derivatives thereof, present rate 25 per cent ad valorem; barium dioxide, 4c per pound; casein, present rate 2½c per pound; logwood extract, 15 per cent ad valorem; potassium chlorate, 1½c per pound; sodium nitrate, 3c per pound; mirror plates, 13½c, 16c or 21c per square foot, depending on the size, provided that none shall pay less duty than 35 per cent ad valorem; pig iron 75c per ton; Swiss pattern files from 25c per dozen to 77½c per dozen, depending upon the size; paint brush handles, 33 1-3 per cent ad valorem; sugar, present rate 1 24-100c per pound and above 75 sugar degrees, 46-1000 of 1c per pound additional; cotton warp knit fabric, present rate ranging according to size and manufacture, but not less than 40 per cent or more than 75 per cent ad valorem, and 75 per cent ad valorem if embroidered; cotton hosiery for infants, present rate 50 per cent ad valorem; wall pockets, 35 per cent ad valorem; artificial or ornamental fruits, vegetables, grains, leaves, flowers and stems or parts thereof, present rate 60 per cent ad valorem.

Prefacing the list the commission made a statement of its present policy of acting upon applications received which appear to be warranted by law and the public interest.

The statement said:

"Since the enactment of the Tariff law on the 21st of September last, the United States Tariff Commission has

received upward of 140 applications for relief under the so-called 'flexible' provisions of that act. All applications have been carefully considered by the commission. Some of the applications reveal the fact that there was some misapprehension as to the purpose of the act, and as to the powers conferred upon the President and the Tariff Commission.

"In other cases the relief sought came clearly under the jurisdiction of the Treasury Department in the administration of the customs laws and not under that of the Tariff Commission. Other applications asked for things which the commission was powerless to consider, for example, the changing of an article from the dutiable list to the free list or from the free list to the dutiable list.

"And in still other cases, upon preliminary inquiry, it was found to be impracticable at the present time to secure data upon which a recommendation could be made to the President. In a number of other cases preliminary inquiries are still being conducted for the purpose of ascertaining whether investigations are warranted by the law and the public interest.

"The commission has, however, proceeded so far as to announce, from its offices in Washington, that it has ordered investigations on a number of articles affected by the Tariff Act of 1922, concerning which applications have been made. These investigations will be conducted under the provisions of Section 315 of Title III of the act and are designed to aid the President in exercising the power given him to modify any particular existing rate of duty where the findings with respect to the differences between foreign and domestic costs of production warrant it.

"In each case the authority of the President is predicated upon the finding, after an investigation by the United States Tariff Commission, that the rate of duty upon a particular article as fixed by the law does not equalize the cost of production of competing articles produced in the United States and in foreign countries. The purpose of the Tariff Commission in the investigations now ordered will be to determine whether any such difference exists in the case of the articles in question and, if so, precisely what it is.

"Some of the investigations ordered are based upon applications for increases, and others upon applications for decreases, in the present rates of duty. But a finding either way can be made upon any application, as the facts developed may warrant.

"Under the commission's rules of procedure formal notice of investigation into each article will be published and opportunities afforded to all persons interested to appear, present evidence and be heard in person or by a representative. Applications relative to other articles are still pending before the commission and will be acted upon in due order."

Teams of commission experts will be put to work immediately gathering information as to the cost of production of the articles listed in this country. Efforts will be made to obtain similar data abroad through agencies now available and if necessary additional forces will be sent to England, Germany and other European countries.

It is not expected that any of the investigations will be completed for several weeks at least and in some cases it is believed that months will be required before public hearings can be held to enable conflicting interests to make their arguments as to the proper rates at which duties should be fixed.

NEAR EAST COMMERCIAL MAP

The Irving National Bank of New York has just issued a new Commercial Map of the Near East, the third of a series prepared for use in foreign trade. While the map is designed primarily for the benefit of importers, exporters and others interested in American foreign commerce, it possesses unusual interest at this time because of the tense political situation in Asia Minor, and along the Dardanelles. The map embraces South eastern Europe, including the Balkan countries and Southern Russia, Egypt and Asia as far eastward as the border of India. The territory surrounding the shores of the Aegean Sea and the Sea of Marmora are graphically portrayed. Places like Smyrna, Izmir, Constantinople, Bagdad, Baku, and others are clearly shown.

The Communists And The Nation

Trial of the group of agitators in Michigan brings out the real activities of the men accused and emphasizes the great need of persistent and continuous education to nullify evil influences

Written especially for AMERICAN INDUSTRIES

By NOEL SARGENT

Manager, Open Shop Department, National Association of Manufacturers

SOME well-meaning citizens have been misled by plausible appeals for sympathy to believe that the tales of "radicalism" in this country have been due to "stool pigeons." Clever persons have told them that tales of Russian intrigue are inventions of government and private spies.

In the first place, we should remember that it is in no way dishonorable to attempt to learn the machinations of those who would destroy our institutions by violent means. This is not, of course, a legitimate excuse for attempts to "plant" evidence or to convict the innocent. We should not forget, however, that those accused of wrongdoing and of criminal intentions or actions are frequently ready with the plea that "it is all a frame-up."

Charges of attempts by Russian Soviet agencies to dominate the radical movement in America seem to be circumstantially, at least, supported by investigations of the riots in the Transvaal almost a year ago. The Russian Soviet does not favor America alone in its designs.

The Union of South Africa appointed a Judicial Commission of Martial Law Inquiry to investigate the events preceding the declaration of martial law on the Rand and other Transvaal districts March 10, 1922. The Commission presented a lengthy report, substantiating all of its conclusions and statements with ample and conclusive evidence. The important facts developed are as follows:

1. The striking unionists organized on a military basis. This action was urged by Communist leaders.
2. The "commandoes" (units of the strikers) attacked in force and killed police and inhabitants, in several instances, and were prevented from further depredations by the declaration of martial law.
3. Property of railways and power companies was destroyed.
4. Communist leaders planned to take control of the Commandoes after the latter had overthrown the existing government.
5. As a matter of fact effective control of the strike movement was lost by the regular union leaders and the "Council of Action" and the Com-

munist Party in Johannesburg took control.

6. The "Council of Action" desired the "abolishment of capitalism * * * by bringing about working class control."

7. Fisher, the Communist leader of the "Council of Action," openly advocated violence. When his movement failed he committed suicide.

The number of Communists in South Africa is not proportionately large; nor is it in this country. But an active nucleus of Communist workers is always a national danger; it is ever spreading its poisonous teachings and ready to seize upon industrial disturbances as a means of grasping power.

We know, for example, that during the summer of 1922 Communist headquarters in Moscow addressed the following order to American Communists:

"The Central Committee of the Communist Party of America must direct its particular attention to the progress of the strike of the miners of America.

"Agitators and propagandists must be sent to the strike regions.

"It is necessary to strive to arouse the striking coal miners to the point of *armed insurrection*. Let them *blow up and flood the shafts*. Shower the strike regions with proclamations and appeals. *This arouses the revolutionary spirit of the workers and prepares them for the coming revolution in America.*"

March 12, 1923, some twenty Communist leaders went on trial at St. Joseph, Michigan. These were the men arrested in a government raid at Bridgman, Michigan, last August. At the time this article is written it is impossible to forecast the result of the trial. Whether this particular trial results in conviction or not, there can be no doubt that the Communist activities in this country are a real menace to our national institutions. The records of some of the leaders arrested at Bridgman and now on trial proves this clearly:

WILLIAM Z. FOSTER
Secretary of the Steel Strike.
Former Socialist.

Former I. W. W. leader. In a letter advocating his election as editor of the *Industrial Worker* published by the I. W. W., Foster said a few years ago:

"I am satisfied from my observations that the only way for the I. W. W. to have the workers adopt and practice the principles of revolutionary unionism—which I take is its mission—is to give up its attempt to create a new labor movement, turn itself into a propaganda league, get into the organized labor movement and by building up better fighting machines within the old unions than those possessed by our reactionary enemies, revolutionize these unions even as our French Syndicalist fellow workers have so successfully done with theirs."

Following this policy of "boring from within" Foster organized and heads the "Trade Union Educational League."

This league has made great headway in union ranks and Samuel Gompers and others accused Foster of being in the pay of Moscow. Foster at first denied any connection with the Bolsheviks. Yet the Berlin agency of the Soviet Government issued July 7, 1922, a bulletin which on page 424 contained a signed article by Foster in which he said:

"The Trade Union Educational League, with its policy of industrial unionism, affiliation to the Red Labor International, the creation of a militant workers' political party and the establishment of the Workers' Republic, will soon be a most powerful element in the American Labor Movement."

It is rumored that Foster and his satellites are contemplating the calling of another steel strike about September, 1924.

C. E. RUTHENBERG

National secretary of the "Workers Party." Two terms for violation of the Espionage Act.

WILLIAM DUNNE

Former editor of the *Butte Bulletin*, Communist advocate.

Editor of *The Worker*, organ of the Workers' Party.

Convicted of sedition during the war.

Candidate for governor on the Farmer-Labor ticket in New York last fall.

Member of the Advisory Committee, Friends of Soviet Russia.

CHARLES KRUMBEIN

Found guilty of violating the Illinois syndicalism law. Pardoned by Governor Small.

Member of the Committee on Constitution of the Workers Party, December, 1922.

EARL BROWDER

Foster's chief assistant.

Manager of the *Labor Herald*.

Term for violation of Espionage Act.

Made member of the central executive committee of the Workers Party at the convention, December, 1922.

CALEB HARRISON

Former candidate for vice-president on Socialist ticket.

Member of the Resolutions Committee of the Workers Party.

Member of the Executive Committee of the Friends of Soviet Russia.

NORMAN TALLENTIRE

Advocates release of Tom Mooney.

From the *Labor World*, Pittsburgh, of February 15, 1923:

"Norman Tallentire was the next speaker. Tallentire is a noted firebrand among the Communists of America and England. * * * He stated that he was a Communist and favored a bloody revolution in America, and that he was proud of his principles."

T. R. SULLIVAN

Two terms in Levensworth Penitentiary for obstructing the draft.

Prominent speaker for Workers Party.

ALEXANDER GEORGIAN

Proprietor of a radical book store in Minneapolis.

Ordered deported to Russia a few years ago. Still in Minneapolis, since, it is claimed, there is no place to deport him, as the United States does not recognize any Russian government. Now boasts to his followers of the impotency of the American law. Communist.

The Workers Party is quite generally understood to be the "legal" branch of the Communist Party. The Communist Party is illegal and cannot operate openly. Hence, the necessity of organizing a group which could work in the open. The Workers Party was organized December 24, 1921, at a convention called by the "American Labor Alliance," a Communist "cover" organization. There were 164 delegates present. The Workers Party is based on the principles of the Third

(Moscow) International.

By working as a political party it is hoped it will be able to spread its Communistic doctrines, minus the element of governmental change by revolutionary force. This point can be added when a sufficient number of workers have accepted the basic Communistic doctrines.

Recently Communist headquarters in Moscow have directed their American agents to work more and more in the open, as such endeavor is believed to have greater possibilities than the "underground" activities. Recent issues of Workers Party publications contain ample proof of that organization's connections with the Communist movement. The March 9, 1923, issue of the *Voice of Labor* (Chicago), describes the Workers Party candidate in a local election as the "Communist candidate."

Mr. Ruthenberg, secretary of the Workers Party, in the March 17, 1923, issue of *The Worker*, extends an invitation to join the Proletarian Party. Mr. Ruthenberg says in part:

"The Workers Party has demonstrated during its year of work that it is a Communist Party. Its delegates attended the Fourth Congress of the Communist International and it has been recognized by the Communist International as a fraternal organization. The program of our organization is a clear statement of Communist principles and the constitution provides for a centralized Communist form of organization.

"The Proletarian Party has declared itself to be a Communist organization. It has declared its sympathy with and support of the Communist International. On the basis of these declarations we are of the opinion that the members of the Proletarian Party should become a part of the centralized Communist Party, The Workers Party of America."

What do the Communists, originators of the Workers Party, with which most of the Bridgman captives are connected, really advocate and believe?

Since the Communist Party has been illegal in this country for three years we will have to go to American utterances prior to 1920 and to Russia for our information.

The call for the national Communist convention in Chicago outlined the aims as follows:

(1) "Abolition of private property in the means of production and distribution, by transfer to a proletarian state under Socialist administration of the working class"; not an American but a class appeal; (2) "International alliance * * * only with the the Communist groups of other countries, such as the Bolsheviks of Russia, the Spartacans of Ger-

many, etc."; (3) favoring "class conscious industrial unionism as against craft unionism"; (4) "The establishment of a dictatorship of the proletariat."

There are six fundamental principles of Left Wing Socialism, or Communism:

(1) The chief issue in industrial life to-day is the struggle between the workers, the proletariat, and the capitalists. (2) The proletariat are the only producers in society. (3) All property, including land, used in production and distribution should be nationalized, that is, put under the control of the proletariat. (4) An absolute dictatorship of the proletariat in industry. (5) This dictatorship may be secured by simple assumption of power, involving, if necessary, force, and democratic means, the use of the ballot, can justifiably be neglected. (6) Communism is international in character.

Karl Radek, the prominent Russian Communist, defines dictatorship as "the form of government by which one class forces its will ruthlessly on the other class." "Proletarian" dictatorship, then, means a dictatorship by the workers.

Lenine says: "They are little more than imitators of the bourgeoisie, these gentlemen who delight in holding up to us the 'chaos' of the revolution, the 'destruction' of industry, the unemployment, the lack of food. * * * In reality, the class-struggle in revolutionary times has always inevitably taken on the form of civil war."

Every American should think that over for a while, and then remember that the Communists, the growing socialistic element in this country, endorse the methods of the European Communists, and that Left Wing Socialism is avowedly an international movement."

We have seen the Workers Party boasting of its "recognition" by the Communist International.

William Z. Foster's organization, the "Trade Union Educational League," is another agent of the Moscow Bolshevik government.

The official publication of the "Trade Union Educational League" is the *Labor Herald*. The March, 1923, issue contains an article by Arne Swabeck, the League's delegate to the Second World Congress of the "Red International of Labor Unions."

Swabeck states that the Congress was held in November, 1922, in the Moscow Labor Temple. Among the interesting parts of the Swabeck article are:

"The American independent unions which adhere to the Red International were told to make an organized cam-

(Continued on page 46)

Those Unsettled War Claims

Thousands of accounts have been squared by the War and Navy Departments, and the road is open for a comparatively expeditious clearing up of all cases caused by the emergency

Written especially for AMERICAN INDUSTRIES

By **GEORGE R. SHIELDS**
Member of King & King

THE United States was, in the opinion of a great many people, very tardy in becoming a party to the World War, but when it did once enter the struggle it did so on a scale unprecedented in the history of war-time activities, and the problem of equipping its forces for service in the European conflict was second in importance only to the problem of training its men and transporting them to the scene of hostilities. Its activities in this behalf resulted in contractual relations with its citizens that extended to almost every plant and industry in the country capable of producing the things needed to maintain an army. Private industry was practically drafted to supply the needs of the army and almost every concern in the country became engaged in some line of activity contributing to the support of the armed forces.

This unexampled state of activity was in full and growing force at the time of the Armistice which terminated hostilities. Apparently no one having to do with planning for the supply of munitions and war material had any substantial hope that the war would not continue for many months into 1919, as all the authorities thus engaged were contracting for materials on the basis that the war would last at least until June 30, 1919. The coming of the Armistice therefore made necessary the cancellation or suspension of many thousands of orders for all kinds and classes of war munitions and materials and resulted in obliging the plants and industries engaged in that line of work at the government's behest to discontinue such work without adequate notice and resume as best they could work of the kind for which they were originally adapted.

Their plants had been especially equipped for doing special types of war work and such equipment was in most cases unadapted to their ordinary work. Their plants were in most cases stocked with materials, either owned by themselves or by the government, especially adapted for conversion into war materials and not suitable for use in their regular work. There was also a period of time during which no one knew what the future program would be, when nothing much was done, either toward getting out of government work or getting into commercial work, during which period overhead and administrative expenses continued to pile up with no available commercial work to absorb same. Many of the agreements between such concerns and the government were of a very informal character often not even reduced to writing and in many cases depending on the memory of individuals as to what the terms of such agreements really were.

This situation naturally resulted in a great deal of confusion. All those who had turned over their plants and facilities to meet the war time needs and requirements of the government felt that they should not be made to suffer substantial losses on account of their efforts to serve the government and a great many claims against the government for the damages and losses sustained as a result of not being permitted to go through with the agreements that were in force at the time of the Armistice naturally resulted.

Congress enacted a law in March of 1919 validating the informal agreements made in the hurry of war time by the Secretary of War or his agents and authorized him to adjust, settle and discharge in an equitable manner,

the claims arising under such contracts. Under the provisions of this act and in pursuance of his statutory authority with respect to formal contracts, the Secretary of War set up a number of boards for the handling of such claims. Each branch of the Army service had its board, in some cases with district boards in the various Army districts and with the superior or approving board in Washington. Another board, known as the Board of Contract Adjustment, and another, the War Department Claims Board, constituted, next to the Secretary himself, the final and reviewing authority. Those having claims presented them first to the District Board, which in a majority of cases made satisfactory adjustments. Where unsatisfactory settlements were tendered by the District Board, the claimant could and often did appeal to the Bureau Board in Washington, and if not satisfied with the decision of that Board could appeal either to the Board of Contract Adjustment or to the War Department Claims Board, and as a last resort to the Secretary of War himself.

A volume could be written about the work of the various War Department Claims Boards, but it is not within the scope of this article to describe their work in detail. It is sufficient to say that these boards were composed of Army officers generally with a considerable staff, partly of civilian personnel, the members of which were more or less familiar with the technicalities of the claims that came before them. Every claim was subjected to close scrutiny and careful checking up of facts. In the great majority of cases awards were made covering substantially the losses that had been

A CONVENTION FOR MANUFACTURERS

The membership of the National Association of Manufacturers is composed of manufacturers alone. The association is representative of the nation's industry. Its convention is in the nature of an industrial parliament, presenting and considering those things which interest the manufacturer. That is why you, as a manufacturer, should attend the convention at the Waldorf-Astoria, New York, May 14, 15 and 16.

imposed upon the claimants through the premature termination of their contract undertakings. In no case were the claimants allowed any anticipated or prospective profits on the unfinished portions of their contracts, their recoveries being limited in all cases to the losses actually sustained plus payment at contract rates for the work completed up to the time of termination. It can safely be said that the work of these various boards, acting under authority of the Secretary of War, resulted in vast savings to the government, the amounts allowed being in nearly all cases substantially less than the amounts claimed, and generally less than would have been allowed had the cases been determined strictly on their legal merits. It can also truly be said that the Secretary of War, acting through the agencies mentioned, performed a very great public service and is entitled to a great deal of credit for the business-like and efficient way in which the vast multitude of claims was handled.

Under the terms of the Dent Act of March 2, 1919, those claimants who accepted the final determination of their claims by the Secretary of War and were paid the amounts determined by him as properly due have no further recourse with respect to any unpaid balance of the claims asserted. It may be that in many such cases inadequate settlements were made but it was the privilege of the claimant either to accept or reject such allowances and having accepted them they have no further rights in the premises. Those who for any reason failed to accept the Secretary's determination, or in those cases where the Secretary of War failed or refused to adjust and settle the claims properly accruing, still have their remedy in the Court of Claims, of which more will be said presently.

It is proper to observe in this connection that the Dent Act conferred special jurisdiction on the Secretary of War to settle, adjust, and discharge only those claims arising under informal contracts. Those having formal contracts, *i. e.*, contracts reduced to writing and duly signed at the end thereof by some authorized officer, are in a different category. Claims arising under formal contracts were settled in many instances by the same agencies that settled the Dent Act claims and the parties may by their acts have made such settlements final and conclusive, but where in such cases inadequate settlements were tendered and accepted by the claimants with proper reservations and protests, the claimants may still have the right to assert such claims in the courts.

The Navy Department did not make very many informal agreements and no law has yet been passed giving to

the Secretary of the Navy the authority that was given to the Secretary of War to adjust, settle and discharge such agreements, nor has any legislation yet been enacted giving to that department authority to make equitable adjustments of its fixed price contracts, even though every consideration demands that such adjustments should be made. In the early days of the war the Navy Department made many fixed price contracts covering a multitude of undertakings, which contracts because of changed conditions caused by the war activities of the government, became exceedingly burdensome to the contractors and in many cases entailed grievous losses out of all proportion to anything that could ever have been anticipated by the parties when such contracts were made. After such contracts were made the government assumed control over the labor supply, regulated rates of wages, took over the transportation facilities, gave priority, enforced embargoes, and in a multitude of ways made the work that was being performed under these fixed price contracts vastly more expensive than could possibly have been foreseen at the time the contracts were made. Many of those having such contracts, if not interfered with, would have completed their undertakings before the changed conditions took full effect and would thus have avoided most of the losses that they suffered. The delays enforced by the government were thus responsible for adding enormously to the costs of the undertakings. Certainly in such cases some equitable adjustment ought to be made whereby the government would assume at least the excess costs which its own acts forced the contractors to bear. It may be, and probably is, true that in most of such cases the contractor has a right under his contract to the damages occasioned him by interference with the work on the part of the government, but if he has such right it can be enforced at present only by suit in the Court of Claims. The Navy Department has no authority to adjust and settle claims in that behalf.

The Navy Department also engaged largely in the practice of giving mandatory orders, leaving the price to be paid for compliance with the order for later determination. This is true also with what was known as tentative price orders. In a great many instances supplies were ordered and a tentative price named for the supplies ordered, which tentative price was paid as the work progressed, leaving for determination after the work was completed the price that would finally be paid. This class of orders was naturally fruitful of a great many disputes, the price finally determined

upon by the Navy Department not always being satisfactory to the party furnishing the supplies. Unless the parties in such cases by their own acts effected what would be held by the courts to be a final settlement of the dispute, they still have the right to litigate their claims in the Court of Claims.

The United States Shipping Board and the Emergency Fleet Corporation engaged largely in the practice of commandeering those facilities and supplies which they required and, direct or through agents, made a multitude of contracts, most of which were terminated following the Armistice. A vast number of claims have resulted from the activities of such agencies, a great many of which are still unsettled. The Shipping Board now has a Claims Commission which is engaged in an effort to settle the outstanding claims. A number of claimants, mostly those dissatisfied with the compensation allowed for the use of requisitioned vessels, have already entered suit in the Court of Claims. Doubtless numerous other claimants will yet be obliged to pursue a similar remedy.

The War and Navy Departments and the Shipping Board were the great contracting agencies of the government for war necessities. Other departments of the government made war time contracts, but not generally for the military necessities of the government. Doubtless many claims will arise out of war time contracts made by other departments.

The average claimant has a very mistaken notion about the Court of Claims. Most people appear to think that this court is far behind with its work and that it is a matter of years to obtain satisfaction of a claim by suit in the Court of Claims. This is not at all true. The court is up-to-date and its work is practically all current. Many suits growing out of war contracts have already been decided and the claimants have received the amount of the judgments awarded them. A suit properly handled in the Court of Claims is assured of as expeditious treatment as would be accorded in almost any other court in the land.

The court consists of five judges. A suit is instituted by the filing of a petition accompanied by the contract upon which it is predicated as an exhibit. The testimony is all taken before commissioners of the court and reduced to writing. Testimony may be taken anywhere at any time. The case is determined on the facts as disclosed by the record made. The expenses of a suit in the Court of Claims consist of the cost of printing the peti-

(Continued on page 44)

Why Veterans Go Back To School

Desire for more scientific knowledge, more efficiency or more complete rounding out of a life of intensive application sends many of our foremost men back to further study in later years

Written especially for AMERICAN INDUSTRIES

By JOSEPH FRENCH JOHNSON, D. C. S., LL. D.
President, Alexander Hamilton Institute

IT all comes back in the end to that hard-used and often misunderstood word, efficiency. Some evening, when other games pall, invite half a dozen friends to define efficiency, each on a separate sheet of paper. The result will surprise you. Or if you are training younger business men, ask some of them to do the same thing. You will find that, although efficiency is so much preached and discussed, few people will agree on what it is.

Your prize will probably go to some one who remembers enough of his school Latin to trace the word back to its source. It comes, of course, from the verb *exfacio*, meaning "I do a thing thoroughly—completely—triumphantly."

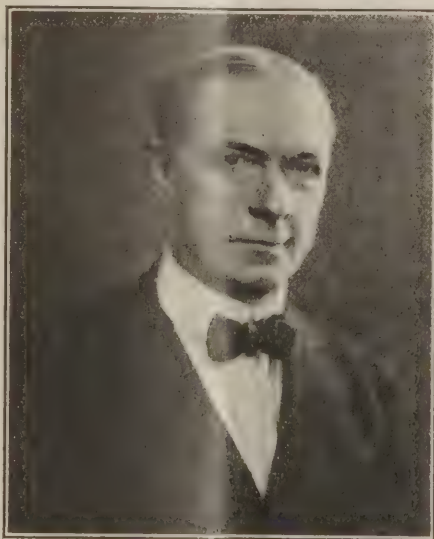
So, efficiency means more than merely ability. We all know tragic examples of great natural ability that went to waste. And efficiency means more than energy. Energetic men, unless their forces are intelligently applied, may waste their lives in misdirected effort. Like passengers on a merry-go-round, they travel a long way and get nowhere. On the other hand, I think no truly efficient man ever wastes his work. At every stage of his career he arrives somewhere. He does things thoroughly, and he is constantly rewarded for doing them.

It is the quest for greater personal efficiency that is bringing veterans back to school.

Everybody knows nowadays that efficiency is not merely the orderly and perhaps economical arrangement of desks and files and other office paraphernalia. It does not mean casual wandering around a factory with a stop-watch in hand. Unless handled by an expert, a stop-watch may be the most misleading and dangerous tool one can use. Efficiency is not the mere installation of elaborate cost accounting methods; it is not the development of any system purely for system's sake. And when this fact broke upon American business men, there was a marked slackening in the demand for the so-called "efficiency experts" who flourished so mightily a few years ago.

One of the best of these men is first of all a certified public accountant,

with a real genius for solving big industrial problems. His services are more in demand than ever; but a few



Dr. Joseph French Johnson

months ago he went to a friend and said: "I will gladly pay a thousand dollars for a better name for my profession than Efficiency Engineering." For the time being, this man is describing himself as an Industrial Engineer; but he is still looking for a more accurate term.

But the quest for greater efficiency, as I said above, still remains and is increasing—all the more so since the old misconceptions concerning its nature are vanishing. There are very few men who can be trusted to do any given piece of work thoroughly, completely and triumphantly. Yet this is precisely the demand which modern business makes upon the men who lead it. Is it any wonder that a majority of these leaders, even though they have grown gray with experience, are coming back to school.

I will particularize concerning them in a moment. Meanwhile, you have surely noticed that in flush times, when everybody is prosperous, mistakes do not matter very much. In bonanza periods one lucky strike may outweigh a hundred errors. If one customer is lost, plenty of others will come along. Even though the president of a company gives more time to thinking about his golf drive than his

company's business problems, it is quite possible—in boom periods—that the company will make money nevertheless.

But we are not living in bonanza days, just now. Few companies can afford presidents who give to business only the hours they can spare from golf. Mistakes count heavily; and they affect more people than just the one man who makes them.

Business is very much like football in this respect. One football player, however able, cannot be a whole team by himself. If the team is running wild, beating all opponents by big scores, an error or two may be overlooked. But if the score is a tie, if the fate of the game is in doubt, then the man who makes an error may lose the game not only for himself but for his team-mates. And this, if he is the right kind of man, is what hurts him most.

There is a story told where football men gather about a player who captained a great Eastern college team. Both player and team had a splendid record of success. At last, in his final game the captain made one error; and it lost the big game of his final year.

This happened a generation ago. The player who made the mistake still comes back to his old college when big games are played. Men welcome him. He is liked and admired. But he never goes to the game. Alone, when the crowds have gone to the field, he paces the empty streets. He prays that his college may win; but he cannot bear even to look at the field on which he lost a great game for his friends.

Every man in business is playing a bigger game than football, and he is sure to feel the same way if he has the right stuff in him. Remorse can be overcome. But the good business man is haunted by the memory of mistakes he has made; and he determines not to make mistakes in the future. More than his own comfort and pride is involved. The comfort and progress of his associates are bound up with his own.

This interdependence of men in business is increasing, as business grows more complex. The day of the

"one-man office" is over. And the problems of business have been intensified, not lessened, by the strain through which the whole world has been passing for eight years. Among the are brand new problems, which no single man's experience and judgment can solve. Therefore he turns, no matter how mature his own judgment, to the combined experience and wisdom of many men. Let me cite a few examples:

At the age of fifty-five, when his product was well known all over the world—more than 700,000,000 glasses of Hire's root beer were sold in 1921—Mr. Charles E. Hires began studying a modern business course. And having finished his study of the course, and recommended it to men around him, he wrote that he had never subscribed to anything from which he had received greater inspiration for his work.

In the Thomas A. Edison industries, men who have done the same thing include Mr. Charles Edison, chairman of the board; together with two vice-presidents, three secretaries of companies and four department heads—each one already successful, but preparing for still greater success.

But every institution of learning can point to similar students—veterans who come back to school. Take Harvard. On its roster last autumn appeared the name of Col. George Lyon, farmer and banker of Nelson, Neb., who at seventy-three came back for post-graduate work. "I am going to lead the life of a student," says this sturdy old man. "I never did have quite the opportunity to complete my education as I wanted to."

And that, be sure, is what every wise man knows; for there is no such thing as "completing" an education. Only recently we have come to realize, all of us, that no man's education is finished when he comes out of grade school, or high school, or college. West Point does not turn out finished soldiers. It simply prepares men to learn to be soldiers; and attendance at the Staff College comes later on, when the young soldiers have become grizzled veterans.

Or take the case of the well-known publisher, Mr. A. W. Shaw. One day, long after his personal income had run into six figures, he decided that his business training was not satisfactory; even though he was making decisions promptly and conscientiously, he felt he was not doing his best—too many of those decisions were the result of snap judgment, rather than accurate information.

So he closed his desk, informed his startled associates that he would be

away for a year, and entered Harvard as a graduate student. There he plunged whole-heartedly into a study of the fundamentals of business; and a year later, he was a bigger and better business man for having done so.

And that such training, even late in life, does produce results in increased efficiency and higher earnings is so evident, all around us, that it needs scarcely a word of proof. Some little time ago, we had occasion to check up what have since become widely known as "The Figures of Failure."

Before I present them to you, let me ask what you think are the principal reasons for non-success in business life? All of us have kind phrases for excusing some acquaintance who has not succeeded.

"Unfair competition drove him to the wall," we say, or "Other people's failure dragged him down with them." Or, at a loss for anything else, we say "He had hard luck."

But it is not luck. A year or so ago, Mr. John Hays Hammond—who has never been wholly free from allusions to himself as a fortunate man, a magician whose lucky star showed him the way to hidden diamonds and gold and oil—wrote an amazing article in *Collier's Weekly* on this subject of luck. With characteristic modesty, he said little about himself. He confined his remarks to the three "luckiest" men he had ever known: Cecil Rhodes, Theodore Roosevelt and Winston Churchill.

Consider only one of them—Roosevelt. According to Mr. Hammond, who knew him intimately, Roosevelt had no luck at all. Born with a puny body and bad eyes, he carefully studied himself and his capacities; he went out West and made himself fit; he forced himself, lacking a good voice, to become an effective public speaker; and he was a strong, fit man when he organized the Rough Riders and his real career of accomplishment began. Roosevelt never stopped studying. He went nowhere without books. Into the jungles of Africa and the feverish swamps of South America he took whole libraries of classic and modern works which he knew would fit him better for his profession as a writer.

"I am only an average man," said Roosevelt once to a reporter, who asked him the secret of it all. "But, by George, I work at it harder than the average man."

No, there was no luck in Roosevelt's career. He made his own conditions. Seeing men who could ride horses superbly, out in Wyoming, Roosevelt learned to ride like a cowboy. When war came, he was prepared to raise and lead a cavalry regiment—and other men, not knowing his years of preparation, sat back and

called it "luck."

If it is not luck when men succeed, is it luck when they fail?

Getting back to "The Figures of Failure," they came to us from Bradstreet's; an institution that tells the truth and makes no effort to gloss over failure with gentle phrases. And here they are:

CAUSES OF FAILURE	
Cause	Per Cent
*Incompetence	38.2
*Lack of capital	30.3
*Inexperience	5.6
*Unwise credits	1.3
*Fraud	7.0
Failure of others.....	1.7
Extravagance	1.1
Neglect	1.7
Competition	1.1
Specific conditions	11.3
Speculation7
Total.....	100.0

I have marked with an asterisk the needless, heart-breaking failures that a well rounded business training would have prevented. Notice that the aggregate 74.8 per cent of the total, three-quarters of the men who went under last year, did so because they lacked the training they needed and could have secured.

But what of the men who don't actually fail and go bankrupt, but struggle along somehow? Men and corporations are both in that category. You cannot help knowing many enterprises, and the men who manage them, that somehow evade the sheriff and the courtroom, but that nevertheless are not sound and prosperous. The same figures, I believe, will apply. There are seven chances in ten that the cause is among those which apply to actual failures. And these lame ducks are a burden upon the community and upon their associated business enterprises. They make life harder and more expensive for us all. Their incompetence is a tax upon all business and all living in the United States.

And that gloomy word "Incompetence" which heads the Bradstreet list—what is incompetence, after all, but the outward and visible sign of lack of preparation and information? Turn away from those figures now, and glance with me at some stories of success and not failure.

About five years ago, a middle aged business man came to my office at the School of Commerce, Accounts and Finance, of New York University. "I have never made more than \$40 a week in my life," he said. "Before it is too late, I wonder if you can help me to earn more?"

Professor J. T. Madden, Assistant Dean, mapped out for him a course of study; he followed it faithfully,

graduated, and went back into business life; where, for several years, we lost sight of him. A short time ago he came back; and a young man was at his side whom he introduced as his son. Professor Madden greeted him; and in reply, he pulled out of his pocket six business cards, showing that he was secretary of six different associations of business executives, from each one of which he was drawing a salary of \$6,000.

"I am making money now," he said. "My daughter is in college, and I am enrolling my boy to-day in the School of Commerce. We have money in the bank."

Perhaps the restrictions of space will allow me to give one more example. At random, from the letters on my desk which I consulted in writing this article, I take one from Mr. — Schoonover, who at thirty-five was treasurer of his own business, a glass factory in Pennsylvania. It manufactured a useful commodity; it gave employment to some scores of people; and Mr. Schoonover no doubt felt that he was as busy as he ought to be. And yet, a sense of obligation to himself and to the people who worked with him, drove him on to study and prepare for larger things. He did not travel; in his own home he studied a modern business course. I pick up a letter he has just written, seven years after he took this step:

"The direct results to me," he writes, "are that I have been able to enlarge my business from one factory and office to its present dimensions of three fac-

ories and offices. And, with the development of administrative ability, I find that I can just as easily handle the three as I formerly did the one."

In the hands of men like these, who are not too proud or too blind to study, even while they work and achieve, American business has beyond question entered a new era. Long visioned men are raising questions that would have astounded their fathers and grandfathers.

For instance, I saw in a recent issue of *AMERICAN INDUSTRIES* a remarkable article entitled, "Putting Education into Business," by Mr. Alvan T. Simonds, the well known tool manufacturer of Fitchburg, Mass. In recent years Mr. Simonds has devoted much thought and research to this great problem—the dissemination of better economic and industrial knowledge.

"Can we accept the statement," asks Mr. Simonds, "that doctors, lawyers and teachers must be licensed and obliged to prove that they have a certain education before beginning their work, unless we also argue that those responsible for business enterprises involving the savings and welfare of thousands of other people should also be required to demonstrate a similar fitness?"

But Mr. Simonds does not confine himself to argument. He offers large cash prizes for essays on economic subjects. He is causing thousands of school children and normal school students to think seriously about economic questions, and about the one

paramount question—the adequate training of the business man.

If I had a son or daughter who wanted to compete for one of the Simonds prizes, my suggestion might be as follows: Do not scatter your thought. Concentrate it on this one great problem. Libraries full of economic books are useless, unless business men know how to use them and *do* use them. Find out which men of prominence in industry are still going to school. Find out whether they are advising their younger associates to do the same thing. Consider men like J. C. Penney, head of the great chain of Penney Stores, who takes men into partnership with him all over America and makes them rich; but only if they are willing, as he is willing, to study business seriously. Such men are the hope of American business. Their work is the answer to every man who would promote the study of economics, the business man's science. For only men who never think their education is ended are men fit to lead.

The time is coming when the one great test of every man in business will not be "How much have you made for yourself?" but "How much are you learning? What new ideas are you gaining for the benefit of your associates and your employees? For only as they profit will you profit in the end."

It is their own realization of the swift approach of this new attitude toward business men that is causing so many of the best among them to go back to school.

Bettering The Industrial Film

Written especially for AMERICAN INDUSTRIES

By **GEORGE J. ZEHRUNG**

Director, Bureau Motion Pictures, International Committee of Y. M. C. A.'s

THE Missouri edict has become a business law. "Show me!" is the battle cry of the buying public, and hundreds of industrial concerns are complying with the demand.

The business motion pictures of to-day show marked improvement in the psychology and technique of production in comparison with the so-called industrial picture of a few years ago, which usually revealed an office force telephoning or signing checks, a hurried and uninteresting trip through the factory, with disconnected shots of processes, ending with a blowing whistle, and all the employes rushing out of the gate.

After seeing a new shoe motion picture, recently shown for the first time, a member of the selected audi-

ence said: "Those scenes showing the tanning and selection of leather have taught me where to buy shoes. I'm going out to get a pair now." This does not signify that motion pictures as a publicity medium are either a modern King Midas or a cure-all. But they do bring results, and owners of many of the newer pictures are backing their conviction by larger appropriations for this type of advertising.

To-day industrial pictures are oftentimes built with even greater care than many of our theatre-heralded super-productions; are designed with a purpose, and are artistically and skillfully produced. They require in the making even more attention than is given to other types of advertising.

The Associated National Advertisers have made a study of this new medium and are in a position to give helpful facts concerning the different types of distribution offered by various organizations. A committee representing some of the largest industries who have had considerable experience in the use of films has also been collecting data for the National Association of Manufacturers.

The problem of using film promotion looms greater, however, to the smaller investor who must depend entirely upon the commercial producer and upon outside help for distribution. It has been with this group that most of the dissatisfaction has been found. This has probably been due

(Continued on page 31)

Bits of News About Men in Industry

J. Herbert Reid, president of the Newark Athletic Club; Franklin W. Fort, manager of the Eagle Fire Insurance Company, and John Enstice, president of Enstice Brothers, general contractors, have been elected members of the board of directors of the Permanent Industrial Exposition of Newark. It is probable that a number of other leading citizens of Newark will be added to the board later.

At a meeting of the directors of the company, at its offices, 36 Park place, it was reported that the list of founder-subscribers was in excess of three hundred and was increasing every day.

Louis V. Aronson, president of the company, called attention to an article on the Permanent Industrial Exposition in the March number of *AMERICAN INDUSTRIES*, official organ of the National Association of Manufacturers, as an evidence of the general interest which is being manifested throughout the country in "Newark's latest and biggest enterprise." This article sets forth the magnitude of the exposition project and is illustrated with pictures of the exterior and interior of the building.

Corbett McCarthy, vice-president and treasurer of the company, commented on the importance of the exposition as a convenience for mercantile concerns in northern New Jersey.

Charles A. Whiting, Treasurer of Whiting & Davis Company, Plainville, Mass., has just presented a \$60,000 recreation building to his employees. The building was dedicated to the memory of Walter L. Rice, Mr. Whiting's son-in-law, whose death recently cut off a career of splendid promise, and will be known as the Walter L. Rice Memorial. Over 750 employes and members of their families attended the dedication exercises.

The Charter Gas Engine Company, of Sterling, Ill., announces the purchase of the entire Mietz Oil Engine (also known as Mietz & Weiss) business, heretofore carried on in New York City by the August Mietz Corporation and the Reliance Oil Engine Corporation. This effects a merger and consolidation, under one manage-

ment, of two of the oldest and best known internal combustion engines in the world. The Charter Company is moving from New York to Sterling, all of the physical assets comprising the Mietz engine and in the meantime filling repair orders from New York City, so that there will be no interruption in repair service to Mietz engine users. It is announced that Mietz engine users will be able from now on to obtain prompt and reliable repair service for any Mietz engine ever built.

Manufacture of a mechanical card filing device known as Filedex, has just been started in Green Bay, Wisconsin, by the Filedex Corporation of America, capitalized for \$250,000.

The Standard Conveyor Company has acquired by purchase all the rights, titles and patents pertaining to the well-known Brown Portable line of portable and sectional piling, elevating, conveying, loading and unloading machinery for handling of packed and loose materials. This line of machinery has been manufactured by the Brown Portable Conveying Machinery Company at North Chicago for ten years. Until further notice the plant will be continued in operation by the Standard Conveyor Company, and all inquiries and correspondence regarding Brown Portable products should be addressed to Standard Conveyor Company, Brown Portable Products Plant, North Chicago, Ill.

E. B. Tanner, for many years valuation engineer in the Timber Section of the Bureau of Internal Revenue, Department of the Interior, has been appointed Chief of the Timber Section. He takes the position left vacant by the resignation of Carl M. Stevens, who has engaged in private practice as a forestry engineer. In point of service Mr. Tanner is the oldest official of the Timber Section and his advancement comes as a deserved recognition of merit.

Dr. Willard Eugene Hotchkiss, distinguished American educator, former Dean of Northwestern University School of Commerce, has been appointed Director of the Bureau of Industrial Education of the Institute of American Meat Packers, according to an announcement by Charles E. Herrick, President of the Institute. Many distinctive achievements in American education stand to the credit of Dr. Hotchkiss. He set in motion the coöperation between Northwestern University and the Chicago Association of Commerce and other business groups that resulted in founding the Northwestern University School of

Commerce. As first Dean of the school he laid the educational foundations upon which the subsequent development of the School has taken place. The School of Business of the University of Minnesota was established in 1919 as a result of his efforts at that institution, where he was Professor of Economics and Director of Business Education.

The Hardwood Manufacturers Institute announces its first Annual Convention for May 10th and 11th, at the Blackstone Hotel, Chicago. Prominent speakers will address the convention, representing outstanding hardwood consuming interests, figures of national prominence in politics, government and general business authorities on general and technical phases of the lumber industry.

The General Electric Company has announced that it will erect in Detroit a five-story concrete building costing approximately \$250,000 which will be used for warehouse purposes, service shop, garage, and will also house the Detroit local office of the company. The building will be erected on a corner plot, facing 100 feet on Antoinette street, and extending more than 180 feet along Third avenue. Approximately 40,000 square feet of space will be utilized for warehouse purposes.

In keeping with the unmistakable indications that 1923 will be the greatest year for the motor truck, President Myron E. Forbes, of the Pierce Arrow Motor Car Company announces that a production schedule has been adopted for the year which calls for a doubled output of Pierce-Arrow trucks during 1923.

"This is going to be the year that the American business man will give very serious study to the motor truck question and select his automotive units on a basis of operating cost," declares Mr. Forbes. "It isn't a question any longer of the practicability of the motor truck, for that has been conclusively demonstrated in all lines of business and under every variety of operating condition. The question to-day is one of economical truck operation with the aim of maintaining constant service at the lowest upkeep cost."

So many applications have been received from western Canadian farmers for Swiss farm help that Fritz Beck, delegate to Canada from the Swiss Association for Saskatchewan, has abandoned his proposed trip to the west and returned to Switzerland to supervise the dispatch of the first party to Canada.

Ports Of The Nation—Galveston

From the days of blockade runners of Civil War fame to the present, the Texas city has steadily developed and is now one of the greatest concentration centers for crude oil on the Gulf

Written especially for AMERICAN INDUSTRIES

By I. D. McMASTER

Secretary, Galveston Commercial Association

FROM the time when LaFitte, the French buccaneer, used the Island as a base from which to carry on his peculiar warfare, against treasure laden Spanish galleons, Galveston has been considered a port, but as a matter of fact the practical development of the harbor has been confined to the past twenty years. During Texas' fight for independence, many of the supplies of the little volunteer armies came through here and even in the Civil War, swift sailing schooners ran the blockade of the Federal fleet and with their cargoes of contraband cotton made their way to some foreign port. But this early navigation was attended with many difficulties, the principal one being lack of deep water over the sand bars at the harbor mouth.

Since 1900, there has been nothing to hamper the handling of commerce in large volumes. The bars have been

dug away, the outer and inner channels have been improved, and protective works have been constructed until to-day, Galveston stands as one of the finest land locked harbors in the United States with sufficient depth of water to meet all normal requirements.

During its brief business career the port has established itself firmly as a raw material exporting center, and for several years bore the title of "second port U. S. A." Local interests claim that the value of tonnage, both foreign and domestic, passing through the port even to-day will exceed any rival port except New York.

Galveston has long been recognized as the principal cotton port of the world. It stores and handles for export annually, one-fourth to one-third of the average annual crop of the entire country. But its facilities for handling cotton are not the sole claim

for glory. It is one of the greatest concentration centers for crude oil both imported and domestic, along the gulf coast. It handles more export sulphur than any other American port. It usually leads in exporting cotton seed products, while the volume of lumber, staves and other forest products, will run high. Flour for export has become an important item and there are times when the volume of outbound grain attains enormous proportions.

Cotton comprises, according to averages, about forty-eight per cent of the usual tonnage of the port, these figures being based on car receipts. There is more storage space for this commodity than can be found at any competing port, as more than one and a quarter million bales can be stored at one time without tiering. If this latter system were employed five million bales, or the average annual production



A section of Galveston's waterfront from pier 22 west

of the three principal southwestern states, Texas, Oklahoma and Arkansas, could be stored under cover.

The system of handling at Galveston differs widely from other ports, various plans having been found to be effective here that are not usually employed elsewhere. Storing without stacking or tiering is only one of the measures which produce efficiency here. Cotton for export here retains its identity from the time it arrives until it sails. There is no confusion since the systems of marking and storing make it possible to find immediately any given bale of cotton, and cut it out from the lot in which it is stored and make it ready for exporting.

Many of the sheds are located at shipside but there are also many compresses and warehouses scattered at various points in the city within drayage distance of the waterfront. Practically all of these plants are equipped with compresses, both standard and high density and there are also six high density compresses located at shipside.

The facilities for handling other cargo are just as efficient as those for handling cotton. There are four grain elevators whose loading capacities are great enough to care for all local needs. In 1921, the local elevators

handled approximately 90,000,000 bushels of grain; more than any other United States port. Since this phenomenal movement additional storage space for 1,462,000 bushels has been built to Elevator B.

Pier 35 has become exclusively a dock for the handling of Texas sulphur for export. Space has been leased to the Texas Gulf Sulphur Company, which has constructed one of the most complete sulphur loading plants in the country. The capacity of the plant is great enough to enable the ordinary cargo steamer to load and sail in a day. The sulphur is mined at Gulf, Texas, about 100 miles from Galveston, a process being used that makes it possible to deliver to purchasers a chemically pure product without the necessity of refining.

It would require much space to enumerate all the various steps which have been taken to make Galveston the efficient port it is. It is only necessary to say that the result has been amply evidenced in the diversion of millions of tons of freight to this port. Cotton seed products, oil for export, lumber, staves, flour and other bread stuffs, rice and some manufactured commodities are the principal exports. Crude oil, coffee, sugar and sugar beet seed are the principal imports.

Two-thirds of the cotton seed oil

mills in the country are located in the southwest and it is only natural that this port should handle a big percentage of the traffic in this commodity.

Of the many factors which have served to build up the port of Galveston, one of the most important has been its unequalled record of efficiency. It is a matter of record that Galveston releases car equipment quicker than any other port in the country, the average detention being about a day and a half. Cargoes are loaded faster into the ship, this having been proven many times in tests between various ports. The labor is admittedly more efficient and obtains the maximum stowage on any commodity handled. *The Daniel Webster*, a shipping board steamer, still holds the world's record for cotton cargo having taken slightly more than 33,000 bales, the cargo having been taken in competition with a sister ship, the *John Adams*, loading at New Orleans at the same time.

There is room at the Galveston docks for approximately 100 ocean going vessels. These docks are developed on the slip system which gives easy access to steamers and also makes it possible to serve each shipside warehouse with rails, independently of other units. Each of these warehouses is served by one to four switch tracks, some of these being



Chart showing Galveston Channel and entrance to the harbor



Cotton compresses and warehouses, one of the many units

located on the apron of the dock. The latter system makes it possible to load direct from car to ship or *vice versa* when necessary.

The improved frontage comprises 41,792 linear feet, which includes the slips. The warehouses alongside this berthing space have a combined capacity of 3,967,922 square feet of covered space or storage in the amount of 52,833,486 cubic feet. There is still more than 100,000 linear feet of channel frontage subject to development when needed.

The figures shown above do not, of course, take in the vast amount of space provided by warehouses scattered over the city but which are not adjacent to shipside. All of the cotton compresses have warehouses in conjunction, ordinarily used for housing cotton, but which could easily be

turned to the use of other commodities if necessary.

Four modern grain elevators at shipside have a combined storage capacity of 5,062,000 bushels of grain and are equipped to handle and store export movements. Two of these elevators belong to the Galveston Wharf Company, one to the Texas Star Flour Mills and one to the Southern Pacific Railway, but under lease to the J. Rosenbaum Grain Company. All of these plants do a large export business.

The facilities at Galveston are all privately controlled. The principal company operating terminals here is the Galveston Wharf Company. One-third of the stock is held by the city of Galveston, but control is vested in the individuals who happen to be interested. Charges are fixed by the

Interstate Commerce Commission and they are very reasonable. At a recent hearing before the Commission it was found that the charges here were as low or lower than at any other port on the Gulf or Atlantic Seaboard and the Wharf Company was complimented on the splendid efficiency of its management.

The harbor is divided into two sections. One is known as the outer channel and comprises about three miles leading from the entrance into Bolivar Roads. From this point several channels diverge, the main artery leading to the Galveston docks about two miles and smaller channels leading seven miles to Texas City, a third running about seventy miles to Houston and another connecting with Port Bolivar.

The outer channel carries a mini-

OPEN FORUM FOR CONSTRUCTIVE IDEAS

One of the features of the Convention of the National Association of Manufacturers, May 14, 15 and 16, New York City, will be a Forum, open to all manufacturers who have constructive suggestions to offer for the advancement of industry and the Association.

mum depth of thirty-five feet over the bar and into the Roads. The minimum depth in the inner channel is thirty feet with an average of thirty-two feet at low tide, and we have had vessels leave the port drawing more than thirty-one feet.

Galveston is the logical point for distribution of all commodities throughout the Southwest. This has made Galveston a wholesale center and a coastwise port handling more of this grade of commerce, probably than any other port except New York. Two lines are engaged in this traffic and handle during the course of a year more than a million tons of cargo valued at approximately \$200,000,000. The movement consists principally of food products, textiles, cotton, wool, oil and mineral ores.

Steamship operation at the port is very economical. To begin with the channel from the docks to the open sea is very safe and the distance is short. An inbound steamer reaches its dock within an hour and a half after entering the harbor. The pilotage and towage charges are small. There are no treacherous currents. Bunkers for oil burning ships may be had at almost any dock, while a coal burner may be served by floating equipment at any point in the harbor

or at the shipside plant at Pier 33. Bunker coal may be had at a reasonable price and bunker oil is usually to be had at a cheaper price here than at any other port because of the close proximity of Galveston to the Texas and Mexican fields.

The United States Government has spent approximately \$20,000,000 in the development of Galveston harbor and it is conservatively estimated that this amount accrues to the shippers in Galveston's trade territory every year in the form of savings in freight rates. Local interests have also expended a considerable amount of money in building up wharves and terminals and in dredging slips.

The port is well equipped for handling repair work on steamers. There is located on the channel proper a 10,000 ton drydock, built by the Emergency Fleet Corporation, but now owned and operated by a private concern which is equipped to handle all kinds of repairs to hulls or engines. In addition we have several machine shops and electrical welding plants which specialize in certain classes of marine work.

The principal business of the port during the past years has been done with the United Kingdom and Continent of Europe. In recent times, how-

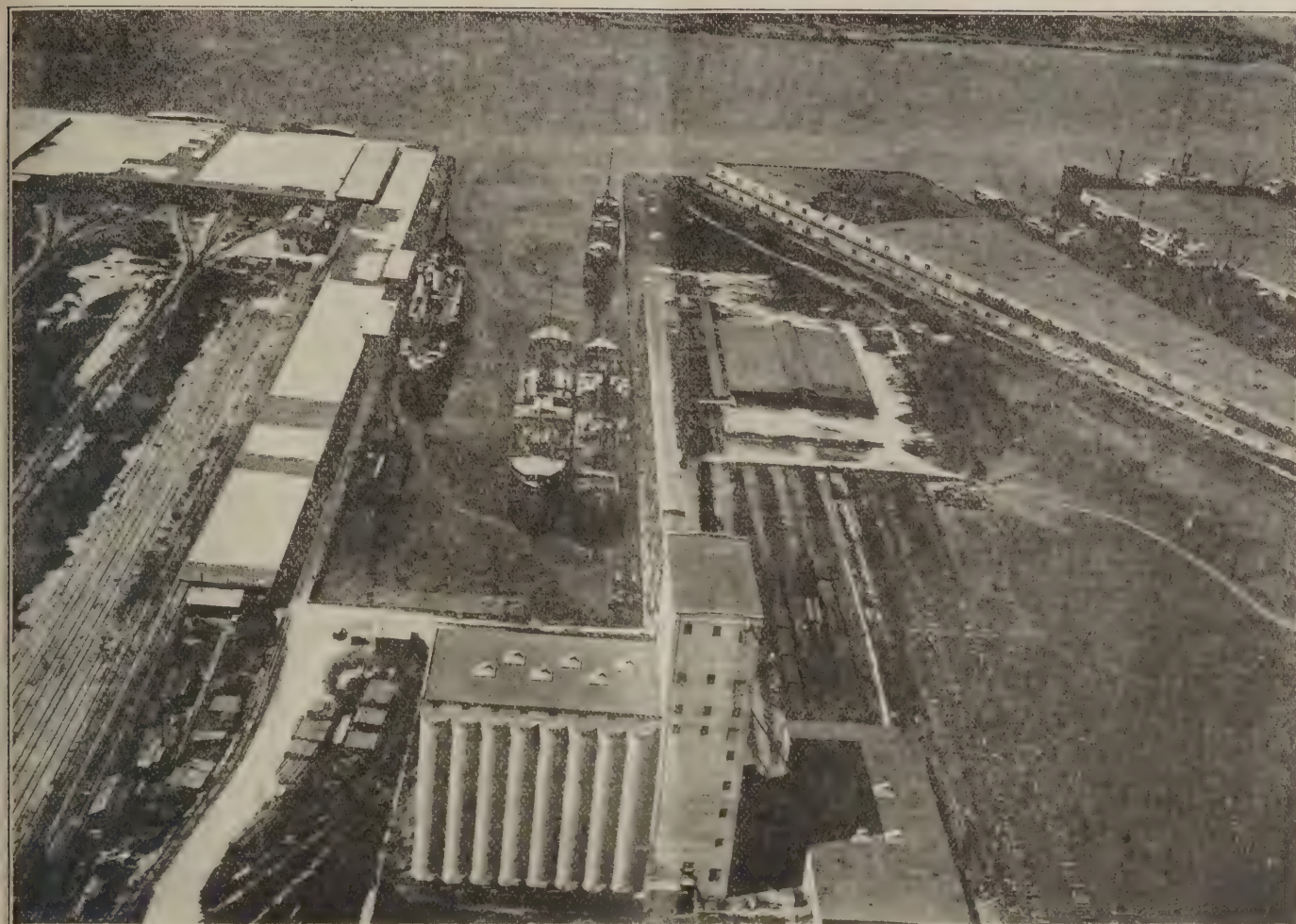
ever, a fair business has been developed to the West Indies, Mexico and the Latin Americas. South American business is now receiving a considerable amount of attention, and prospects are good for a substantial movement of coffee, cocoa and other raw materials northward and of various grades of machinery and manufactured commodities southward. Japanese business for two years has been increasing with startling rapidity. This is attributed to the fact that many new cotton mills have been established in that country and the demand for the raw material is increasing. Several large Japanese steamship lines have been established at this port in the past two years.

The Panama Canal has made it possible to establish coastwise steamship service to the Pacific Coast and the Luckenbach Line is now engaged in developing this business with Galveston as one of the Eastern terminals. Competition between the steamship route and the various trans-continental rail lines is very keen and some material rate reductions have resulted on many of the staple articles. These reductions are working to the advantage of the shipper.

The territory tributary to Galveston is so wonderfully rich, actually and



Airplane view of Galveston channel and wharves



Southern Pacific docks and elevator. Picture shows slip system of wharves

potentially that it is really difficult to determine what the future business may comprise. Agriculturally it is the richest section of the United States, producing a great percentage of the country's raw materials. It is rich in mineral deposits and in fuel oil. The discovery of the latter commodity has made the territory attractive for industries. Textile mills particularly are seeking locations nearer the source of

the raw materials. Most of the flour and feed is ground in the grain producing section of the South and Middlewest. Plants for the assembly of materials used in the big manufacturing centers of the East are being established in all parts of the territory. This is having its effect on the business of Galveston and the trend is gradually turning to manufactured commodities. But this is additional

business, for Texas, Oklahoma and Arkansas must continue to grow their share of the world's cotton crop, and it probably will be a good many years before the grain supply of the world returns to normal. At any rate it is generally conceded that the future of Galveston is assured for the prosperity of the port depends in direct proportion to the prosperity of the territory it represents.

Census Of Manufactures

THE National Industrial Conference Board has just issued, under the title "A Graphic Analysis of the Census of Manufactures," a most convenient and elaborately-produced reference book on industrial conditions and the trend of changes in these conditions.

Fifty industries are studied. The survey shows that of the population of 105,710,620 of this country in 1920, 41,614,248 persons were engaged in gainful occupations. In manufacturing and mechanical industries there were 12,818,524 or 12.1 per cent of the total. There were 28,795,724 engaged in other gainful occupations,

or 27.3 per cent of the total. There were 41,125,067 not engaged in gainful occupations and 22,971,305 persons under ten years of age.

The record presented in the volume reveals a picture of industrial transformation and growth unparalleled in rapidity and extent. In the span of little more than two generations the United States has assumed the leading position among all nations in the volume and variety of its manufacturing production. The country has become, in short, the world's greatest industrial nation, and this position has been won in large part within the five years from 1914 to 1919.

This rapid transition from an agricultural to an industrial economy has carried with it many changes in the distribution of the working population and in the relative economic importance of the geographical divisions and states of the country. An increasing proportion of the working population has been drawn into manufacturing. The centers of industrial activity have moved slowly but surely westward, pushing back the agricultural frontier and stimulating the growth of cities. This development has taken place, however, without increasing the proportion of women and children in industry. The entrance of women into industrial occupations has only kept pace with the industrial growth, while the proportion of workers under sixteen years of age has declined.

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D. M. EDWARDS, EDITOR AND MANAGER

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MOTORING UNDER RIVER

NEW YORK,* which has set the pace for the world in under-river subways, is now well started on the under-the-Hudson vehicular tunnel which it is building in co-operation with the State of New Jersey. In these days of tremendous automobile traffic, the construction of this tunnel no doubt will be followed in other sections of the country where delays by ferry, and insufficient bridging cause the loss of thousands of hours to motor-trucks with their freight and passenger automobiles on pleasure or business journeys.

Within the last few weeks, the great steel shield, or borer, which will cut the hole under the river from the New York side, started operations. This mechanical device cost something like \$1,000,000. It will bore toward the Jersey shore. Within thirty months, it is expected, it will meet the great steel shield that will soon be started from the New Jersey side. The two will meet under the water approximately seven hundred feet from the New York entrance.

The completed tunnel will be a double tube, perfectly lighted, and patrolled, and with ample capacity for two lines of motor-cars running in each direction.

Manufacturers' Convention

THE Nation's Industry will be in conference on May 14, 15 and 16, at the Waldorf-Astoria Hotel, New York City. This will be the twenty-eighth annual convention of the National Association of Manufacturers and the interest and co-operation of every member of the Association is sought to make this the most memorable meeting in the history of the organization.

John E. Edgerton, President of the Association, has already sent a strong appeal to all the members of the Association urging personal interest in the meeting and individual effort to insure their companies being properly represented. This is the end of the second year of Mr. Edgerton's incumbency and the strong circles of friends he has built up in his administration are already evidencing unusual interest and sending in early promises that they will be in attendance. Moreover they are taking upon themselves the pleasant obligation of bringing other manufacturers to this, the manufacturers' convention.

Mr. Edgerton in his appeal calls attention to the multiplicity of conventions demanding the time of the manufacturer. May is a month of conventions. Every manufacturer is urged to make careful selection as to the convention he will attend—and that convention should be the meeting of the National Association of Manufacturers; the Association's efforts are always devoted solely to solving the manufacturers' problems. The coming convention will naturally confine its attention to those things which affect the American manufacturer most directly; other conventions treat with the manufacturer's problems incidentally.

Every effort is being made to provide a program that will be a distinct milestone on the highway of industrial accomplishments that stand to the record of the National Association of Manufacturers in its history of more than a quarter of a century. Subjects of vital interest to each and every member of the

Association, and to their manufacturing friends, will be discussed in all their phases.

Some of the outstanding features already arranged include:

World Conditions Session: This will take up the political, industrial and financial conditions of the countries on the other side of the ocean. There will be speakers of national and international repute whose word is authority on the subjects with which they will deal. They will seek to give to the industrial world, a bird's-eye view of the situation prevailing in the foremost industrial nations of the old world.

Industrial Production Session: This will consider every phase of the industrial situation of to-day. There will be addresses on how to improve and stabilize the present production trend and suggestions will be offered looking to maintaining sane production during the usual slack months of the summer.

Open Forum for Manufacturers: This will be conducted with the express view of giving to individual manufacturers who have constructive suggestions an opportunity to present them for the consideration of the Association. It will be the first time that the floor of the convention has ever been thrown open generally to the members, and officials of the Association are confident that it will be productive of many valuable and progressive suggestions.

Open Shop Session: This will be a presentation of the open shop situation throughout the country. There will be speakers from various sections, chosen to present a particular phase in this growing subject.

Special Fellowship Luncheon: On Tuesday, May 15, there will be a special luncheon given for the members of the Association at which the routine of the convention will be forgotten and the members will be entertained by unusual speakers and with a musical feature specially prepared for the occasion.

Other subjects: In addition to these, some of the general subjects

to be discussed are transportation, taxation and the coal situation, which will be a very vital topic at the time of the convention.

The annual banquet: This will be held on the last evening of the convention, Wednesday, May 16, and speakers of national and international prominence will be announced within a few days.

PUT DOWN THE DATES:

MAY 14, 15 AND 16

AND THE PLACE:

WALDORF-ASTORIA HOTEL

NEW YORK CITY

AND THEN

MAKE EVERY PREPARATION

TO ATTEND AND BRING

ONE OR MORE

OF YOUR MANUFACTURING

FRIENDS WITH YOU.

Joins Staff of the N. A. M.

J. Lewis Benton, formerly managing director of the Philadelphia Textile Manufacturers' Association, has just resigned from that organization to join the staff of the National Association of Manufacturers. His chief function will be to develop a general direct service department of the Association.

CATALOGUES

FOR

BUYING READERS

"American Industries" will keep on hand complete files of catalogues of the products of its advertisers, in order to comply with occasional requests made of this office in an effort to expedite information.

We shall be glad at all times to assist either the buyer or the seller in any way possible.

Something to Think About Twice

"The ever-growing love of the American people for entertainment, for comforts and for luxuries is rapidly diverting increasing numbers of workers from the essential occupations to non-productive and relatively unimportant tasks. The utilization of the surplus labor of society for these purposes is highly desirable and so long as we continue to improve our productive methods their number should constantly increase to the great benefit of all classes of our people," says Charles R. Gow, president, Associated Industries of Massachusetts.

Attorney-General Daugherty has announced that President Harding will run again for president in 1924. He says he made the announcement without any special authority from the president but because he believes the country will demand Mr. Harding's re-election. He says the party's platform will be practically that of the administration's achievements and puts them down as: the application of business principles to governmental affairs and the enforcement of laws; the untangling of complicated war problems; the reduction of expenditures in government; the cutting down of the burden of taxation.

Income tax receipts are exceeding expectations; but there is no promise of reduction for the huge war debt will stand between the taxpayer and relief for years to come. "There will be no surplus," Secretary Mellon says, because "we generally find that something has been done with the money after we collect it." The New York *Herald* says it is always that way now with governments. Once a productive tax is laid on the people it stays on. If there is no continuing excuse for it, like the war debt, the bureaus find that they need it anyway. Income taxes are not popular because they fall most heavily on prosperity and ambition; and prosperity and ambition are too busy to go into politics.

The public health committee of the New York Academy of Medicine has sounded a warning in the matter of the presence of carbon monoxide gas discharged by the swarms of automobiles in the city streets. It points out that the concentration is becoming sufficient to warrant remedial measures. The safety standards of the London underground railways permit of not more than one part of carbon monoxide gas in 10,000 parts of air. The standard adopted for the New York-New Jersey Vehicular Tunnel is four parts of carbon monoxide gas to 10,000 parts of air, provided no one is exposed for more than thirty or forty minutes. There are supposed to be nearly a million automobiles of all kinds in New York State; at times it would seem as if there were hundreds of thousands of them concentrated in the shopping district alone.

Flamboyant appeals by Communist writers for "armed action, not armed phrases," praise for the miners who are alleged to have participated in the Herrin riots, and a call for "bullets, not ballots," featured the opening day of the trial of William Z. Foster, charged with criminal syndicalism, in St. Joseph, Mich.

Many millions of dollars have been wasted by slipshod and vague plans for caring for the sick veterans of the world war, says Dr. William Charles White, chairman of the Board of Consultants on Hospitalization, in his report to Secretary Mellon. Dr. White points out that \$316,000,000 has been spent since 1917 and cites that twenty projects have cost \$3,000 a bed, when less than half that amount would have sufficed. Dr. White says a mistake was made by trying to standardize the work of the hospitals. The plan was all right for the buildings, but not the patients. He says the program of the consultants on hospitalization was unavoidably delayed by the establishment of the Veterans Bureau and confusion followed the enactment of the law creating the bureau.

Minnesota's Bricklaying School

Teaches hundreds of workmen the proper methods, overcomes some of the restrictions placed on the apprentices and develops one effective way of eventually bringing the construction cost down

Written especially for AMERICAN INDUSTRIES

By A. V. WILLIAMS

Secretary, St. Paul Builders Exchange

OVER two years ago, the general contractors of St. Paul and Minneapolis decided to try an experiment in training men in the bricklaying trade. A fund of \$6,000 was subscribed, a building midway between the two cities was rented and a competent bricklayer hired to give the instruction. Announcements of the opening of the school were published in the daily papers, and students applied in large numbers. The theory of training men in this way proved to be a success, and the school has prospered. It has fully met the expectations of the most optimistic of its promoters and is now a permanent Minnesota institution.

The purpose of the school is to train men in the bricklaying trade, so that the shortage of mechanics in that trade of about 33 1/3 per cent could be relieved, and an adequate number of men enter that trade each year.

The United States Government Census Report for 1920, shows that there were 26.3 per cent fewer mechanics working at the bricklaying trade in 1920 than there were in 1910.

Comparatively few men have entered the bricklaying trade during the past fifteen years, due largely to the restrictions imposed on apprenticeship by Bricklayers' Unions throughout the United States, among which are that no one over twenty-one years of age would be permitted to learn that trade; that those who were allowed to enter the trade be required to serve an apprenticeship of three years, and the limiting of the quota of apprentices who could enter the trade to a certain number for each contractor.

The Minnesota contractors believed that a system whereby men over a certain age were denied an opportunity to learn this trade, was grossly wrong in principle, causing as it did an injustice to many of the common labor group through preventing them from improving their condition in life. They further believed that a system of "Once a laborer always a laborer" had no place in America; that in this country known as the "great land of opportunity," no man or group of men had a right to deny or seek to prevent

anyone who desired to better his condition, from lawfully doing so.

They also knew that some men quickly absorb the things there are to learn in a trade and soon attain efficiency, while in the case of others it takes longer, and that it was therefore not right to handicap the energetic and efficient man by compelling him to serve an equal time in learning a trade with the man who is less efficient and less studious.

The men who are sponsors for this school contended with the difficulties of the old system for many years. They finally realized that something must be done to start a new order of things. They are practical men who know what is required in order to efficiently train men in the bricklaying trade. They finance and supervise the work. The school has proven to be a most effective agency for training men in this important trade. Since the school was started in March, 1921, upwards of 200 students have been enrolled in the bricklaying class, many of whom are now working at that trade.

Bricklaying is one of the best paid of the building trades and the opportunities for employment are excellent. The demand for permanent materials in building construction is growing from year to year, and the use of that class of materials is only limited by the supply of mechanics available to do the work.

The classes are held each week day except Saturdays, from 8 A. M. to 5 P. M., and on Monday, Wednesday and Friday evenings from 7 P. M. to 10 P. M. The course is for six months and the students, as fast as they show efficiency, are given an opportunity to enter the employment of contractors. Students acquire sufficient knowledge to enable them to begin work at the trade in from four to six months. The instruction is largely individual, so that students may enroll at any time.

The tuition charge for the course of six months is \$5.00. If the student attends 75 per cent of the course the tuition is refunded. The school was not started nor is it conducted for the

purpose of making money for its promoters. The sole purpose is to make bricklayers. Only those who want to learn that trade are desired as students.

There are no restrictions as to age, anyone over 18 years of age is eligible. Many of the very best students are men between the ages of 25 and 35. We mention this to emphasize the injustice which has been done to men over 21 years of age, who in the past have been denied an opportunity to learn this trade.

The cost of training a man is about \$35.00; the average time required is five months, about \$7.00 per month. The school has proven to be so popular that we had a waiting list of students this winter and additional room has recently been added to the school quarters. Our enrollment for the present term is about 100 students. It is an inspiring sight to see the class at work and to think that we have been instrumental in opening up opportunities to each of these men, which under the old system, would never have been possible. The men attending the class are of an exceedingly high type. Many of them have families and support themselves by working part time at other work while attending the school.

The working code of the Bricklayers' Class follows:

The student is started at spreading mortar and is kept at that until he can spread the mortar in a good straight and even line for three or four bricks. After getting so he can spread mortar and handle the trowel fairly well he is then put on the cross joints from four different positions so when he gets on the wall it will not make any difference which way he is working. Next he is put on the line and taught to lay brick to the line, being particular not to get the work above or below the line and not to crowd the line and to keep his cross joints plumb and the work well jointed up. From working on the line he is then started on corners and leads, pilasters, piers, arches, rowlock and bonded jack, sills of different falls, and all the different bonds

(Continued on page 44)

Putting Courts On Business Basis

Widely approved efforts of the Bar Association to simplify our system of pleading, practice and procedure so as to promote the speedy settling of litigation on merits in one form of action

Written especially for AMERICAN INDUSTRIES

By THOMAS W. SHELTON

Chairman, American Bar Association Committee on Judicial Procedure

THE legal atmosphere in America connotes dusty tomes and deliberate reasoning by trained minds upon technical subjects, in which no place is found for the layman, the only actor with an interest. Traditionally the administration of justice in America is cloistered. The sensational alone, concerning the courts, finds a place in the popular press. It is within this compass that the American layman's knowledge of the administration of justice is limited and with these lurid stories is his sentiment flavored. The sacred truths and great principles that might be put within his reach, are kept from the lay reader, who is not only capable of understanding but is most in need of them. On the contrary, the reports of trials in England made by the *London Times* are accepted as if official, so correctly and fully are they reported. Obviously this enterprise is in response to a keen interest and understanding by laymen, who demand it, and thereby give it the quality of "news." Otherwise they would not be published. The student of English juridical history and contemporaneous times will not consider himself far afield in attributing this commendable popular attitude to two things—the scientific operation of the Courts by the judges and lawyers and an intelligent, patriotic coöperation of the secular press. It is these two elements in the administration of justice to which it is desired to direct the attention of those deeply interested in this sacred subject.

It may be observed without the danger of invidious comparison, that the lively individual interest in the Courts of England is not because of the greater general knowledge of legal processes or of a higher general intelligence. The explanation seems to be found in the simplicity of the operation thereof. It is a trial of facts they observe in the courts, regulated by the fixed law of the case and not one of technicalities controlled by keen wits. Spectators are not drawn to the court room by the thrill of sensationalism, the diversion of minstrelsy or the entertainment of oratory, for none are

to be found. One might as well be in solemn St. Paul's so quiet and decorous is the atmosphere. Every ounce of energy leads in its deliberate prodding way to the final judgment for which the case was instituted. There are no



Thomas W. Shelton

useless, senseless, peevish or obstructionist diversions. "Exceptions" and "objections" by lawyers, that necessarily but materially mar American trials, are so rare as to startle or even offend the opposing lawyers, who pride themselves, as sworn officers of the court, on keeping within the rules made by them. Nothing but such conduct and such reverence could so inspire and hold the faith and respect of English, or for that matter, American laymen in the agencies, human and otherwise, designed to administer justice. That may be taken as the lay human equation.

England being the home of the highly technical common law practice and procedure for nigh on to eight centuries, one unfamiliar with modern legal history is justified in being agreeably surprised. The explanation is simple. The fact is that all technicality of every nature was abolished from the courts, the moment that Parliament turned over their practical operation to the judges and lawyers

and thereafter, devoted itself exclusively to making laws instead of trying also to administer them. An opera bouffe was converted into a shrine. That is the underlying distinction between American and English courts.

It is the explanation of the simplicity of the English courts and sets in opposition the conflicting technicalities of American Courts. It is the difference between a locomotive built and operated by practical mechanics and one built and operated by a Board of Directors. Each class is good in its place and each is bad out of it. It is the reason the lay press can intelligently follow and report the proceedings. The one object in the English Courts now is to ascertain the elusive truth, the issue to be tried, to simplify that in advance by way of admissions of undisputed facts and also the production of documentary evidence for examination before the trial. It is a business-like procedure, devised to administer justice that appeals to the layman and is not a game of hide and seek to bedevil an opponent, confuse the jury, trip the judge, obfuscate the layman and impress the gallery with a superheated knowledge of a difficult, technical game, that ought not to exist. This is what has disgusted the American press.

The English processes being controlled by common sense and directed by a simple sense of justice are understood by laymen, are intelligently and interestedly followed and thereby, in editorial estimation, the daily activities of the courts and the efforts of the lawyers to improve the courts is "news." Publishing it therefore, is an economic as well as a patriotic matter. This is the explanation vouchsafed from a very high source. But, as we shall see, the newspaper created the appetite to which they now so profitably and patriotically cater. Manifestly there are yellow journals in England. There are also cases of smallpox in that healthful and highly civilized country.

The far-reaching result is a popular interest in and respect for the courts,

for judges and for lawyers, the corollary to which is a mighty and consecrated effort on their part to live up to expectations, and the people are the beneficiaries. Moreover, the daily reader visualizes the administration of justice through the soul and spirit of the editors and not through the jest of the minstrel or the spleen of the nihilist. The courts are not necessary evils to be avoided through arbitration, compromise, or even abject surrender of rights. The courts are to Englishmen a real city of refuge, that they shield as their best friend. Justice is dignified. Indeed it is hallowed. The judges hold office for life, or during good behavior and competency, and receive a salary of \$25,000 a year. They are appointed by the Lord Chancellor because of peculiar fitness, and not by popular vote, or as a political reward. The layman, conscious of the necessity for a high efficiency, realizes his limitations in making the selection. The appointee is the man approved by the lawyers, who willingly stand responsible for his administration and his conduct.

In ages past we are told that justice is the greatest interest of man on earth. And it is so. Whether or not that sentiment be given expression, it lies deep in the heart of mankind. There can be no civil liberty nor property rights without it. There would be no peace and no commerce. There would be no civilization. There would be no secular press. Of its relation to government this, with all due respect, may be said: Of the three departments of Government, the Executive and Legislative might cease their activities for a given time without other harm than inconvenience, but chaos, murder and rapine would result should the courts suspend functioning for one day. Might and not right would become the measure of human relations. Is there within the comprehension of man a more important thing than the perfection of the courts and the machinery by which they are regulated? Is there one to which less serious and thoughtful attention is being given by the secular press, by way of educating the people to its sacredness and importance? Is there one to which appropriations are more grudgingly given? Is Congress, is the press, are the people undervaluing them, or are they merely indifferent? Where so much is involved one would expect a determined demand that the courts be regulated by the highest trained and consecrated agencies. That is the solemn conviction of the English press, reached after years of search for the truth; it will soon become the first thought of the American press,

a press that has ever stood for the best interests of its country. It is the unanimous voice of the organized lawyers of America. And to their constant and sustained petitioning, Congress has turned a deaf ear. It must become the conviction of the laymen. This is where nothing but the press can aid.

Now the Englishman evidenced his conversion by his works. After fifty years of struggling Parliament, surrendering a little control over the operation of the courts here and a little there, from about 1823 to 1873 (The Selborn Bill) Parliament cut the last thong that bound the judges and lawyers and set them free to scientifically perfect the detail machinery of the courts. And a new era opened in English jurisprudence. Thus the English laymen and law press won a great victory, for the lawyers gratefully acknowledged that they could not have achieved it alone. They would have gone on fighting for another half century, if for no other reason than the lack of public confidence now so vigorous and hearty, in the proposed evolution. For an evolution it was. The public and many good lawyers and some judges, as well as many able statesmen could not be brought to believe that the administration of justice ought to and could be effected by the simplest of methods—free from mystery and doubt and entanglements. Through the clouds and fogs of technicalities brought down through the centuries, and still existing in America, they had never seen justice. The litigant's interest was as naught in conflict with the perfection of a "declaration" or a "special plea," over which hours and days were squandered. To banish this *chevaux-de-frise* with one stroke and permit of a direct admission to the very presence of justice seemed incredible. Their incredulity is as easily appreciated as their present familiarity and intelligent interest, faith and support. The American laymen must learn this truth.

How did the Englishman go about accomplishing this historic result, that has proven to be the wonder of the civilized world, is obviously an interesting question. He did no more than the Founders of Government in America had proposed and provided and intended a century before in their Federal Constitutional Convention held in 1787. It is not too much to claim that this Convention supplied to the English the idea that the Legislative Department should make the laws and the Judiciary Department should administer them, although there are many lawyers in the membership of the Legislative body. The connotation to that principle is that the

Judicial Department—the judges and lawyers—should perfect the detail machinery of the courts for, obviously, the right to prescribe the manner of doing a thing is the power to control the result. This is the serious error that Parliament had theretofore committed and which it thereafter refrained from doing. Parliament devoted itself exclusively to making laws, and ceased trying to administer them through statutory regulations or otherwise.

As was said in the first lines of this article, the responsibility of administering the law fell upon the shoulders of the judges and lawyers, where it logically belongs and they arose to and proved equal to the sacred task, greatly improving their own status in the effort. For the first time in history, there was prepared and put into effect in the courts a permanent scientific correlated system of simple rules for the regulation of the operation of the courts, free from the substantive law that they were designed to administer. The beneficent result has already been shown. Another result is that there is no difficulty on the part of the press in visiting responsibilities for a failure of justice. The laymen now know whether it is a bad law that caused the mischief, or a good one badly administered. There is no confusion of actors. That is why the *London Times* can interestingly and correctly report an action to recover on a note, to collect an open account, to ascertain damages for a personal injury or to fix a disputed boundary. That is why the press can intelligently comment on the practical functioning of a court and can tell the public whether the judge, the lawyer or the Parliament deserves criticism or praise. Under present conditions in America the helpless and innocent judge alone is blamed. The lawyer is often praised for his dilatory and obstructionist tactics, as will presently appear, because Congress forces him to that course.

We spoke of the English as having adopted the American idea of enactment by the Congress and administration by the courts and that Congress had unwittingly suppressed it. That calls for a sharp division of power between the two departments, if proper results are to be had, or, in fact, if the Government shall stand. It is well to quote some of the comments made on the Convention floor, uttered in 1787, after stating that the fear was unanimous that Congress might eventually do just what it has done—absorb the powers of the Judiciary Department as far and as rapidly as permitted. James Wilson, of Pennsylvania, aiming to provide for the protection of the courts against the inroads of Congress,

proposed a coalition between the Executive and the Judiciary. It was seconded and supported by James Madison of Virginia in these words: (Scott, Madison Papers 399):

"It would be useful to the Judiciary Department by giving an additional opportunity of defending itself against legislative encroachments. * * * If any solid objection could be urged against the motion, it must be on the supposition that it tended to give too much strength, either to the Executive or the Judiciary. He (Mr. Madison), did not think there was the least ground for this apprehension. It was much more to be apprehended that, notwithstanding this coöperation of the two departments, the legislative would still be an overmatch for them. Experience in all the states had evidenced a powerful tendency in the Legislature to absorb all power into its vortex."

The defeat of this coalition plan has proven to have been a wise move. But it has likewise transpired that it created the one weak point in the Constitution of the United States. It left the Judiciary Department exposed to the depredation, even to absorption by the Legislative Department. Congress has taken advantage of that weakness. It may have felt obliged to do it, because of the past indifference of the lawyers, and there is much in the argument. But two wrongs do not make a right. The present generation of lawyers are demanding an opportunity to perform their sacred duty. That is the point to be impressed upon Congress by laymen, through the press. At present Congress not only tells the courts what they may do, which is proper, but it tells them exactly how they shall do it, which completes the absorption. The smallest detail in the operation of the law courts is regulated by statutes. The judge is a moderator, subject to the hostility of the lawyer, and is the victim upon whom all blame is placed. That deplorable fact cannot too strongly be stressed if the people are ever to understand the real spirit of the courts. There is one truth that no statesman will dispute, which is, that the power to direct the manner of doing a thing is the power to control

the result. It does not require a trained or a technical mind to understand that truth, and that the people are receiving legislative instead of judicial justice. The English press grasped it and passed it to the people. When the American press undergoes the same conviction, the great underlying principle given concrete form by the founders of America will be brought back to the home of its birth.

Inasmuch as the organized judges and lawyers, supported by the doctrine of the founders, influenced by the success of a concrete example in the English courts and convinced by their practical experience, are earnestly seeking the power to perfect the American courts, why has not the great American press, like their English brethren, come to their aid? If one be permitted to venture an opinion, it is because there has been offered no concrete plan, so free from technicality as to be readily taken hold of by common sense and analyzed and understood. Neither an editor nor a reporter can grow enthusiastic over a simple thing shrouded in mystery by technical and oftentimes meaningless terms. It is not believed that the press of America entertains a single doubt as to the competency or fidelity of the judges and lawyers to simplify and modernize the administration of justice. But the press has not learned that they are the only persons who should do it. It is repeated that the concept of the American press concerning the agencies of justice is that it is a cloistered thing. Moreover, the impressions and influences operating upon lay editors in the past must not be lost sight of. The detailed machinery provided by Congress for regulating the law courts is so technical as to be understood by but few lawyers! More text books have been written in the effort to elucidate the subject than upon any other, with few exceptions. It would be foolhardy indeed, then, for a layman to essay a discussion or report of it and its workings. And, inasmuch as this so-called "practice" leads inevitably into a jungle of technicalities, there is often no concrete result of public interest to report or discuss. To the layman it is not sheer foolishness, it is downright wickedness, from which

he withholds his sympathy or wholly ignores it. One must not be unmindful that the thing has been condemned by both Presidents Taft and Wilson, the American Bar Association, forty-five state bar associations, and a great array of judges, lawyers and teachers; that its abolition has been demanded by many civic and commercial organizations. Having been brought up in this atmosphere of doubt or disgust, it is illogical to expect the participation of the lay editor in the absence of a concrete program, that appeals to his reason. That done, he stands ready to coöperate. The investigation and report of the proposed commission, heretofore discussed, it is believed, will correct that serious difficulty. It will put the lay editor upon the same plane as the lawyer, as to the practical operation of the courts. He will watch its development step by step and bind the thoughtful American people to their courts with the unbreakable cords of understanding and reason. It is the beginning of a new American era as distinct as that of 1873 in England. For that reason the press is not likely to observe with patience any delay in Congress in authorizing the creation of the Commission.

It will prove helpful in the circumstances, to emphasize the importance of the practice and procedure—the detail machinery—of the courts. Upon it depends a proper administration of justice. It is in fact the most vital element. Let us illustrate. A city might construct the most modern and capacious reservoir and fill it with the purest of water, but the quality and quantity that reaches the consumer will be measured by the pipes through which it is conveyed. So, although Congress may fill the code with the wisdom of a Solomon, the potency and merit of the law will be measured by the machinery through which it is administered to the people. If the practice and procedure, forced upon the courts by Congress, tends to clog instead of expedite; if it be highly technical and conflicting instead of simple and direct; if it be expensive instead of reasonable in cost, manifestly the administration of justice will be a failure in spite of beneficent laws and good intentions. It is the explana-

A COMPREHENSIVE INDUSTRY CONVENTION

World conditions; industrial production; the open shop; the coal situation; transportation; taxation and finance will be some of the subjects discussed at the annual convention of the National Association of Manufacturers, New York City, May 14, 15 and 16. In addition there will be features to promote fellowship.

tion why certain Senators have stubbornly resisted—it connotes the surrender of certain legislative power, although improperly exercised.

It is the layman, therefore, who knows best that justice deferred, or made difficult or costly, is justice denied and it is he who suffers most on account of it. There is no escape or consolation for him. He can only bemoan his misfortune. Knowing not where to direct his criticism he falls upon the helpless judge because he happens to be the participant nearest to him in apparent authority. The judge and lawyer console themselves with the statutory excuse that they do the best they can with the legislative restrictions and limitations thrown around them. But the point is that the layman believing in the existence of a great reservoir of justice, and ignorant of what we have tried to explain, cannot understand.

So, though the wisest, purest and most highly qualified men be selected as judges, indeed though Solomon in all his wisdom preside, his usefulness and merit will be measured by the practice and procedure regulating the operation of the courts.

Let us see just how far this wrong extends as seen from the layman's viewpoint. Should the judge, in the effort to prevent a miscarriage of justice occurring in his presence, depart from a statutory rule of practice and procedure arbitrarily provided by Congress, an appeal would be taken and the judgment would be reversed. Obviously the reversal would be based upon a technicality of procedure and practice and not upon the merits of the case. The salient fact is that the innocent litigant suffers from the unnecessary wicked thing that he is taught to respect and trust. So the judge is not to blame. He deserves sympathy. Nor is the lawyer to blame for he is also sworn on his oath of qualification to uphold and enforce all statutes enacted by Congress, without distinction, including those regulating the practice and procedure, however technical and conflicting and disastrous to justice they may prove. One feels wholly justified in charging this to be one of the most indefensible and wicked things of which Congress has ever been unwittingly guilty. It is a thing that the lay press grasped in England with all of its vigor. The press saw that lawyers and judges must be set free from this bondage in order that their duty as officers of the court might be performed and the people obtain the benefit of their learning, wisdom and experience, and patriotism, instead of suffering from their enforced enmity. The American press will eventually grasp this point. Then, and not till then will the ad-

ministration of justice be perfected in America. It is the thing around which all else revolves.

The daily experience and knowledge of the science of government have taught the judges and lawyers that the operation of the courts ought not and need not be promotive of litigation and strife at all, nor even of a dispute that the judge may not instantly settle without risking a prejudicial error. In other words they know that the practice and procedure of the courts ought to be a mere detail of a trial, instead of its main feature as it now is. In spite of this fact, over fifty per cent of the time of the courts, by actual figures, is now taken up on purely procedural and practical matters that have no bearing whatsoever on the merits of the case. For all of this the litigant pays. No reference is made to the number of times that a litigant loses out entirely. This is the truth that the secular press must take to laymen, which is the only logical means of conveyance. Moreover, that voice and that only can be spoken loud enough to be heard by the law makers selected by the people. Twelve years of American appeal and a half century of English history have fully demonstrated that truth.

Now certain hardships arising from the practice and procedure, forced upon the courts by Congress, have been so severe in the past as to cause the American Bar Association to pass resolutions and to send strong committees before Congress by way of protest and petition for temporary relief, until a simple scientific practice and procedure would be permitted by Congress. Many years were consumed in these visits. The lawyers have exerted themselves to their utmost. Some illustrations may be given. Congress was finally persuaded to permit a case to be transferred from the equity to the law side of the court, when instituted on the wrong side. Formerly the judge was required to dismiss the case although then too late to be brought on the right side. And the citizen lost without understanding why? The absurdity of this old custom is worth stressing. Procedure and practice, as well as the law, was arbitrarily divided by Congress into "law and equity" although a single judge sat on the one bench in the same court room. Now, if a case were mistakenly brought with the "equity" instead of the "law" procedure it had necessarily to be thrown out and justice refused. It is as if Congress required of an applicant for equitable relief to wear a certain kind of uniform. If it transpired that his uniform was not entirely regular, although he had gone all the way to the Federal Court to find out,

he would be kicked out of court by the marshal. Now Chief Justice Taft's recommendation of a "unit administration of justice" heretofore cited would do away with the dangerous distinction between the two procedures. The principles of equity, that is the law, could and would be as readily preserved and applied and technically deprived of its deathly sting.

Formerly, if a defendant had a counter-claim against a person suing him in equity, it was necessary for him to file a separate and distinct cross bill instead of setting it up in the answer that he was obliged to file and where it logically belonged. Congress was finally prevailed upon to correct that absurdity. (Judicial Code 274-a, 274-b, 274c. Law and Equity Bill, approved March 3, 1915.) Formerly a defect in the averment of citizenship in the pleadings caused the arbitrary dismissal of a suit. The court, under the revision just mentioned, is now permitted to amend the pleadings at any stage of the case so as to perfect the allegation and save the poor litigant from being kicked out of court. The lawyers advocate that reform. In order to reduce the number of reversals on technicalities Congress, after earnest appeals by the American Bar Association and many personal efforts by Judge Everett P. Wheeler and his committee, was induced to enact the Act of February 26, 1919, substantially as follows: "The Court shall give judgment * * * without regard to technical errors or defects or to exceptions which do not affect the substantial rights of the parties." The inconsistency of the thing is this: That Congress recognized the destructive nature of the procedure and practice it forced upon the courts but refused to abolish it although it felt constrained to muzzle it by way of neutralizing its wicked results. And it did this by instructing the judge to pay no attention to the machinery it provided if it did harm. It is as if Congress had refused to permit the lawyers to kill a rattlesnake, that Congress had inadvertently put into the court room, but told the judge to keep an eye on it. Until Congress interfered and changed it, this beneficent practice had been the custom with the courts. Judge Story, in *McLanahan vs. Insurance Company* (1 Peters, 170-173), decided in 1828, said: "If, therefore, upon the whole case, justice has been done between the parties and the verdict is substantially right, no new trial will be granted, although there may have been some mistake committed at the trial." Again Congress granted the right of an appeal to the Federal Supreme Court but it pro-

vided more than one way of perfecting it, each separately conditioned. If, therefore, one went upon a "writ of error" when a "certiorari" happened to be the prescribed method, again he found himself in the wrong uniform and again he was figuratively kicked down the steps by the ever-ready marshal. So highly technical were these particular "processes of justice" that the members of the United States Supreme Court themselves could not agree upon the correct one. *Dahnk Co. vs. Bondurant*, 5 U. S. Sup. Ct. Ad. Op. (1921-22), pp. 114, 115, 120. Congress certainly performed this work of confu-

sion with disastrous exactness!

In the face of a record like this; with the great organized bar of America underwriting a unanimous plea for relief and insistently calling for action; with a course of dissatisfaction arising from the people; with an example in England that is the marvel of the world; and with a statutory practice and procedure that could not be much worse, one wonders why Congress has not responded. Let us review some of the results. Statesmen would be instantly relieved of what must be a heavy burden of labor; there would follow an assurance of the proper administration of

the laws they enact; there would result a shifting of the sacred responsibility to the judges and the lawyers without the loss of eventual control by Congress, for it could promptly take back the power it had given; there would be a happy response to a popular demand, for forty-six state bar associations and all the great national, civic and commercial organizations have endorsed it; and there would be a concrete evidence of the intention of Congress to cooperate with its coördinate Department of Government that would inspire a new faith in the people.

Export Managers Convention

"Common Sense in Exporting" was the Convention theme at the Annual Meeting of the Export Managers Club of New York, which was held on March 20, at the Hotel Pennsylvania. The Export Managers Club at their annual meetings, and particularly at this last meeting, put into practical effect their motto, "We help each other to help ourselves—in Foreign Trade." The export managers do not waste time in abstract discussions, but endeavor to get down to brass tacks at once, so as to cover their program in one day's meeting. The program was a very practical one and the various subjects brought forward were handled by men well qualified to present

the various topics and discuss them from the standpoint of long practical experience. The program follows:

"Getting Results from the Sales Budget"; Thomas W. Pelham, Director of Sales, Gillette Safety Razor Co.

"Building Sales Through Service"; H. L. Gemberling, Director of Foreign Sales, Sherwin-Williams Co.

"Manufacturers' Representative or Merchant Distributor"; Ernest B. Filsinger, Export Manager, Lawrence & Co.

"Practical Problems of Marine Insurance"; Peter Moora, Export Manager, Patton-Pitcairn Division, Pittsburgh Plate Glass Co.

"Discounting Drafts vs. Collections"; L. R. Browne, Credit Manager, International Western Electric Co.

"Standardization of Practices"; Round Table Discussion, led by Harvey E. Golden, Assistant Export Manager, General Fireproofing Co.

An informal dinner was held, at which the chief speakers were the Hon. Frank B. Willis, Senator from Ohio, whose subject was "Export Trade a National Necessity," and W. R. Cummings, Vice-President and Director of Sales, Monroe Calculating Machine Co., who spoke on "The Export Manager's Part in Developing Export Trade."

Bettering Industrial Films

(Continued from page 17)

largely to excess enthusiasm, and to confidence in that Pollyanna type of producer who has promised the exclusive rights of every theatrical screen in the country to his unsuspecting and delighted client—both believing the impossible could be accomplished.

The theatre owner has been bribed, threatened, teased and buncoed by many a producer and owner into including industrial-advertising films in his programs, but an unrelenting army of box-office supporters are now backing the manager in his determination to repel the invader. This army pays for entertainment, not to be preached to or sold to. It is an unsophisticated manager indeed who does not look twice before taking the manufacturer's money, running the industrial picture and gambling with the good will of the people who are paying off the mortgage on his brick and mortar.

The greatest opportunity open to owners of the industrial and advertising film is that provided by the screens of the schools, churches, industrial

plants, Y. M. C. A.'s, and kindred organizations. Many types of distribution are now serving this non-theatrical field but no single organization is attempting, and none will likely ever be able, to offer all phases of distribution required by any one manufacturer or merchandising firm. Much investigation is necessary on the part of the owner to discover the channels best suited to reach the desired market.

Mohamet did not wait for the mountain to come to him. To make business pictures a success the owner must not only seek out and use the types of distribution already provided that best meet his need, but must also originate and develop the distribution he requires. The possibilities which lie in coöperation of the exhibitor and the owner of the film in a service to the community are unlimited. Co-operation instead of exclusion and imposition is the thing which will make possible a three-fold service mutually beneficial to the owner of the picture, the exhibitor and the audience.

The industrial advertising picture

exhibited under the direction of a school teacher provides excellent illustrative material for physical geography, economics or mechanics, vocational guidance, etc. Practically all industrial advertising pictures lend themselves in church use as excellent illustrative material for themes on the application of practical religion.

In the industrial plant showing the business pictures develops a broader conception of our industrial life and our social problems. They create a better understanding and greater sympathy among those in various walks of life; they present a forceful appeal for the brotherhood of man and a grim warning against intolerance against sect or class.

This method, combining instruction with entertainment, gives vitality to the message the producer or manufacturer wishes to convey; and when the owner and exhibitor coöperate to mutual benefit and to the interest of the audience the value of the film is intensified and trade-marks are made indelible in the minds and good-will of the buying public.

**Industrial
Views
From
Far-Away
Lands**

WORLD TRADE



**Business
Opportunities
in
Other
Countries**

Trade Move To Stabilize World

Americans in the International Chamber of Commerce meeting in Rome sound out the delegates on the proposal to call an international conference to discuss settlement of interallied debts

ALTHOUGH it is not on the official program, one of the most important results of the congress of the International Chamber of Commerce, which opened in Rome a fortnight ago, may be a proposal to convoke an international conference to discuss the settlement of the interallied debts and reparations, the stabilization of exchanges and the restoration of international credits and trade. This interesting information is contained in a special article in the *New York Times*.

According to the present plans, the suggestion will be advanced by the American delegation at a meeting of the Finance Section of the congress, provided that a sufficient number of other delegations can be found to give it their support. With this object in view, informal meetings have been held between members of some delegations, in order that the opinion of the majority may be ascertained.

The industry and trade section passed resolutions that all customs regulations and changes in them be published regularly and promptly by the different states, by an International Bureau of Customs Tariffs in Brussels and by the League of Nations. States which have not already done so are invited to publish a general index and explanatory notes in connection with their tariffs. Another resolution declares that all states should make arrangements to admit goods at the old customs rates in case that duties are increased after

the signing of contracts and before the delivery of goods.

Numbers of the trade and commerce section expressed opinion that the debarring of any particular class of goods or the establishing of unjust discrimination against any state should be abolished. Where the rule is applicable to any class of imported goods depend on technical conditions such as purity, quality or sanitary conditions, international agreements were favored which the exporting country would guarantee the satisfaction of such conditions instead of having the goods subjected to analysis in the country of importation.

Lewis E. Pierson, Chairman of the Board of the Irving National Bank of New York, and Robert Lamont, President of the American Steel Foundries Company of Chicago, represented America in the trade and commerce section.

The transportation section on which America is represented by Alba B. Johnson, President of the Railway Business Association of Philadelphia, and Edward N. Hurley, President of the Hurley Machine Company of Chicago, also came to some important decisions, especially in the matter of the transportation of immigrants.

The British delegation presented a motion which recognizes the right of any state to limit immigration to any extent which it considers proper but declared that discrimination in favor of the vessels of any national flag against the vessels of alien flags in

regard to the maritime transportation of immigrants, passengers and goods is against international rights and disastrous to international commerce. An Italian delegate said that he accepted the motion, provided that the following reservation was added:

"As long as the United States do not reestablish full liberty of immigration, Italy finds it necessary to reserve the right of transporting on her own ships the largest part of her emigrants going to America."

The American delegates raised no objection and the resolution was passed with the Italian amendment. Italy has therefore accepted the motion in principle but makes this reservation for the particular case of the United States.

The American delegation played an important part in a discussion on air transportation and on the abolition of visas on passports. A motion was made that a permanent commission should be established to encourage civil and commercial aviation and the American delegates introduced an amendment stating that the largest portion of any funds apportioned to flying should be devoted to civil and commercial aviation as distinct from military aviation.

In the matter of passports the American delegation proposed and others unanimously approved a resolution stating that the compulsory abolition of negotiations should be undertaken between nations to achieve this object.

Cuban Cigar Industry Reviving

Exports of the leaf tobacco, which fell off in 1920-1921 show an improvement of approximately 70,000 bales and the complete recovery of the British Isles as a market now appears assured

Written especially for AMERICAN INDUSTRIES

By B. MacLENNAN

of Henry Clay and Bock & Co., Ltd.

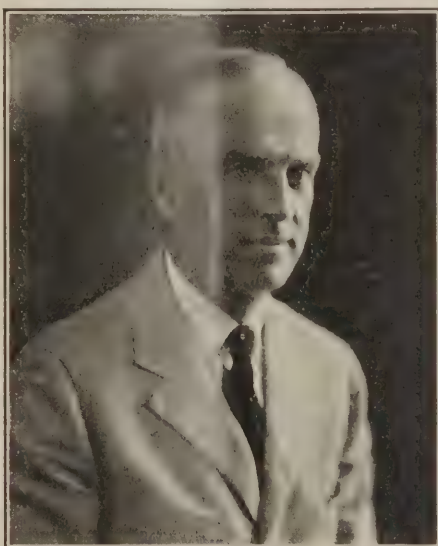
TOBACCO is as natural to Cuba as the sunny indolent atmosphere which caresses that sub-tropical island of the Caribbean Sea. There Columbus found the native Indians to be a happy, contented people, accustomed to the use of tobacco, the crops of which were the subject of special incantations and invocations. Although the present-day Cuban tobacco farmer may not be much of a singer, there is little doubt but that he prays as earnestly as ever did the Siboney Indians that hurricanes, rain storms, droughts and insect plagues, will not inflict damage to his plants, and that his harvest will be good and plentiful.

Havana, Cuba's capital, has long been famous for the excellence of its cigars, and every year the factories there compete zealously with one another to obtain the best tobacco of the crop.

Although most of the finest cigars are exported, Cuba, with its population of approximately three millions, consumes more cigars than it sends to other countries.

Unfortunately, the high duties imposed by practically all countries of the world have made the Havana cigar a decided luxury, and its soothing influence can only be enjoyed by those possessing the necessary capital. From its inception the Havana cigar industry has been so harrassed by restrictions, taxes, duties, etc., that it is only by sheer merit it has continued to exist. Whenever a country decides that it is necessary to

have more funds to meet a swollen budget, Havana cigars are usually called upon to stand a further increase in duties or internal taxation, which, naturally, has a disastrous effect on



B. MacLennan

the trade in Cuba, as it curtails the output and throws a large number of people out of employment. This has been going on for many years; just as soon as a market attains an extent worthy of consideration, legislation steps in, and Havana cigars are plastered with such duties that the prices are practically prohibitive to the ordinary smoker, and the Cuban manufacturer has to find other outlets for his product.

The value of the total exportations of leaf and manufactured tobacco from Cuba naturally varies each year in accordance with the quantity and quality of the crop and marketing conditions abroad.

Most of the leaf tobacco is shipped to the United States to be manufactured into cigars there, either by itself or blended with American grown tobaccos.

Prior to 1920 the chief market for Havana cigars was the British Isles, but in 1920 the British Chancellor of the Exchequer optimistically imposed

an additional 50% *ad valorem* duty on imported cigars to raise more money for national expenditure. The new duty was a complete failure as it made the cost to the consumers so great that very few people in the British Isles could afford the luxury of an imported cigar. Importations decreased to such an extent that the revenue with the new duty was less than before. Recognizing the mistake, the Chancellor of the Exchequer removed the additional 50% duty during 1921, and the large stocks



Field of Tobacco growing under Muslin Canopy



Stringing the carefully-graded tobacco leaves

held by the British importers in bond immediately began to move. The imposition of this great duty lost Cuba her principal market for cigars temporarily, and was the chief reason of the decrease in the figures for the two years of 1920-21 and 1921-22. The present indications, however, are that it will not be long before the British Isles are purchasing as many Havana cigars as formerly.

Statistics of exportations for the pre-war year of 1913-14 and the years 1919-20, 1920-21 and 1921-22, are as follows:

LEAF TOBACCO

	Bales	Value
1913-14	347,554	\$18,802,542
1919-20	367,548	32,695,083
1920-21	261,852	25,444,460
1921-22	329,766	24,353,571

CIGARS

	Quantity	Value
1913-14 ...	174,301,065	\$12,560,366
1919-20 ...	197,340,103	20,807,103
1920-21 ...	85,130,991	10,819,349
1921-22 ...	72,446,133	8,538,191

The tobacco industry in Cuba, in proportion to its monetary value, gives employment to a very large number of people. The great care that has to be exercised in preparing the lands, the constant attention of the plants while growing, the curing, selecting, packing and shipping, mean that the leaves have to go through many hands before they are ready for the cigar maker's table. A short synopsis of the cultivation and preparation of tobacco as it is carried on in Cuba

planted in ground that has been specially prepared during the previous six months. While the plants are growing, earth is heaped around the roots, which operation is usually performed with a short handled Cuban hoe, and all the time the farmer has to protect them against the numerous insects which feed on the leaves. Some of these insects are indigenous to tobacco, and their color makes detection difficult, while others only attack the plants at night. To overcome these pests, a mixture of Paris Green and corn flour is used.

Irrigation is effected in several manners, according to the nature of the land. Where the soil permits, the water is allowed to run freely between the rows of plants, but in localities where the ground is very permeable, the roots of each plant are watered separately. Automatic sprinklers have been tried, but with unsatisfactory results, as the water falling on the leaves has a tendency to spot them, thereby damaging the quality and appearance. If a good harvest is expected, it is essential to have the fields properly irrigated.

As soon as the seed buds appear on the plants they are cut off, and from this time on the leaves attain their full development, the plants taking about sixty days from the time of transplanting to reach full maturity.

On account of the great demand for light tobacco (claro) in the United States and other markets, the farmers have been forced to resort to growing part of their crops under shade, which



Carrying the leaves to the drying barn

THE BRASS ROD

Beats Down Overhead

BRASS STEEL

1 2½

Opinions vary as to just when it is more profitable to machine from Brass, but they are all agreed that the biggest dollar's worth is given to the customer when his order for screw-machine work is filled in Brass.

We have uncovered some interesting facts in regard to the profitable use of the Brass Rod. They have been assembled in a little leaflet that we want you to have.

There's a coupon below. Fill it out and mail it to us. You will be interested to get the other man's reason for saying that the Brass Rod beats down overhead.

Of course, one of the best reasons for Brass is that it never rusts. Add to this the fact that it requires only two-fifths as much labor to machine as steel; that Brass is easier on machines, with consequent savings in upkeep—and you have a combination hard to beat.

Send for the leaflet. It will be off the press in a few days.

COPPER & BRASS
RESEARCH ASSOCIATION

25 Broadway • New York



C-5

COPPER & BRASS RESEARCH ASSOCIATION
25 Broadway, New York

Please send me copy of "The Brass Rod" leaflet.

Name

Street No.

City & State

is formed by a canopy of coarse muslin, or cheese cloth, over the growing plants to protect them from the sun. This, however, is done to a limited extent, as most of the tobacco raised in Cuba is grown in the open without artificial shade.

Shade tobacco is gathered in a different manner from that grown in the open, or, as it is called, sun tobacco. First the lower four leaves on the plants of shade tobacco are plucked and about three or four days later five or six leaves are taken from the middle and after another three or four days the remaining leaves are stripped. As soon as the leaves are taken from the plants they are strung in pairs, face to face, over long poles which are hung on racks in the drying barns. The leaves of sun tobacco are not plucked but the plant is all cut up at the same time into as many parts as there are pairs of leaves so that they can straddle the poles, a part of the stem of the plant forming a connection between the two leaves.

The poles are placed on the racks in the drying barns at a distance of about one foot from each other and the leaves remain there until they have dried out. During this time care has to be taken to see that the leaves do not stick together and that the windows of the barns are opened or closed in accordance with weather conditions.

Along about the end of May when the first rains from the south appear if the leaves have attained the requisite uniformity of color they are removed and tied into bundles for sweating. These bundles are placed on top of each other in large piles and the temperature developed by the fermentation is watched closely day and night, progressive farmers using a long stemmed thermometer for this purpose. When a temperature of about 120° Fahrenheit is reached the bundles are separated, shaken, turned over and placed again in piles and the

process repeated until the tobacco is perfectly conditioned.

The selecting comes next, and this requires a close examination of each leaf to place it in its proper grade. After selecting, bundles are made of a certain amount of leaves according to their size and class. These bundles are called hands, and four tied together are called a carrot. Eighty carrots go to a bale, which is wrapped in the bark of the Royal Palm and tied with a fibre made from the bark of the Majagua tree. The class and grade of the tobacco are marked on the outside of the bales which are now ready to be placed in the storage warehouses where the tobacco undergoes a further

in the Province of Pinar del Rio. This particular section is known as Vuelta Abajo, and the finest lands are on the south side of the hills in a well watered country with chocolate colored soil two to three feet deep. Naturally, the Vuelta Abajo leaf, on account of its superior quality is very much in demand; in fact, the demand is greater than the supply, and leaf from other districts is frequently substituted, the unsatisfactory results of which are left to the cigar smoker to discover later on to his chagrin.

The bales are first placed in the warehouse in single rows, and several days later they may be heaped one on top of the other, but not more than five or six bales in each heap, according to the quality of the tobacco. The warehouse should be a stone or brick building, perfectly ventilated, with very little light, and the temperature should not vary more than 10° Fahrenheit. In such conditions the tobacco will ripen to perfection.

When the tobacco is thoroughly cured it is sent to the cigar factories where the bales are opened up, the leaves sprayed with water, laid in piles and allowed to stand for several hours until they become moist and pliant so that they may be handled without breaking. The tobacco intended for fillers, or the

inside part of the cigars, is stripped of stems, which is done by women, mostly by hand, on account of the various sizes of the leaves. Another selecting operation is then given to grade the leaves according to size and strength, after which they are placed in barrels or bins with ample openings at the tops and sides for ventilation. The process takes from two to six weeks, or possibly longer, and the tobacco is examined daily by experts who judge when it is ready to be given to the cigar makers to roll into cigars.

The outside leaf of the cigar, or wrapper, is handled separately from the filler. After the first selection



Leaves strung up in the drying barn

process of curing while in the bales.

The different grades of tobacco in a crop cover a wide range, and one farmer's product may be composed of a number of bales which will sell for any price from \$10.00 to \$1,000 per bale. This great variance in grade is only to be found in the localities where the finest classes of tobacco are grown. In other localities, such as Santa Clara Province, where tobacco is grown mainly for export in the bale, there are not so many different grades.

Tobacco is grown in many districts of Cuba, but the best soil to produce suitable leaf for fine Havana cigars is in the Western part of the Island

from the bales it is moistened, stripped and immediately sent to the wrapper department which is considered to be one of the most important branches of the factory. In this department the leaf is examined by experts and distributed to the cigar makers according to the classes of cigars to be made.

In the rolling of the cigar the Cuban climate is again an important factor, as the moist atmosphere permits the leaf to retain its flexibility, which is necessary in making a perfect cigar, whereas in cold and dry climates the tobacco leaf becomes brittle and readily breaks in the hands of the workmen. It is generally conceded the Cuban cigar maker is a past master in his craft but he has to thank the Cuban climate which enables him to turn out his product with such excellence and uniformity.

Many cigar rolling machines have been invented, but no mechanical device can produce the perfect workmanship of a cigar rolled by an expert.

The finished cigars are examined by inspectors who reject any showing faulty workmanship. Those that pass inspection are placed in seasoned cedar cabinets, slightly ventilated, where they are allowed to remain for a few days so that any excessive moisture left may pass off by evaporation. Selectors then assort them in their colors and shades, and they are packed into the well-known wooden boxes of twenty-five, fifty or one hundred cigars. These boxes are made of Cuban cedar and represent the product of another small industry entirely dependent on the cigar industry.

From the time Havana cigars are made it is very essential that proper

care and storage be given them until they are ready to be smoked. They will absorb moisture like a sponge and take up any impure air and smell near where they may be placed, spoiling the aroma and flavor characteristic to them.

It is generally understood that a dark colored cigar is a strong one, but this is not necessarily the case. A dark color, or maduro, means ripe. The wrapper determines the color; the filler or inside of the cigar, which is ninety per cent of its weight, determines its character. Both dark and light wrappers may be strong and bitter if they have not been thoroughly cured.

In closing it may be advisable to say that Havana cigars should be smoked slowly or the combustion will be imperfect and the delicate aroma lost.

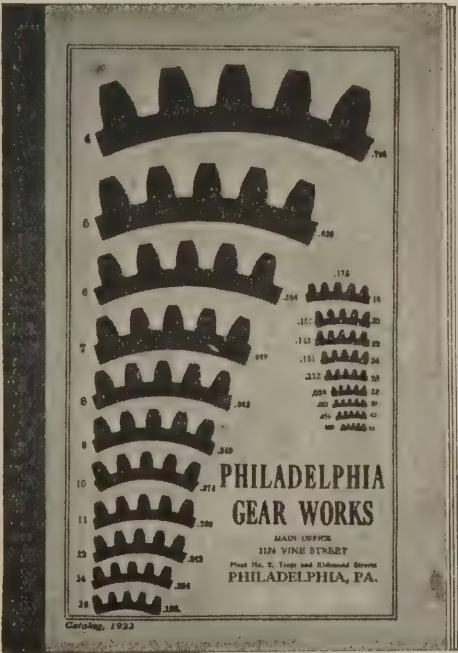
Draining The South To Fill Other Places

AS yet the immigration problem has not affected the Virginia industries materially due to the following reasons, in the writer's opinion: First, Virginia has never been an employer of foreign labor to a great extent; second, native labor has been very well satisfied up to recent months since which time a decided migration

has taken place. This migration, however, is offset by drawing on the rural districts and the territory to the South.

This is a condition which cannot exist long. The long established industries are meeting the shortage of immigration labor by drawing on the native labor of the South, paying, as

is natural, a luring wage; the industries in the South in turn drawing on local agricultural labor. Consequently the agricultural interest will be the first to suffer, and as the spring opens up much of the labor employed in local industries will go back to the farms, and unless the Eastern industries are supplied by the desirable immigration labor the Southern plants will be very much crippled.



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Gear Wheels and Gear Cutting.
Speed reducing units for complicated drives.

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France's Needs; Europe's Danger

Remarkable presentation of the situation that faces the republic and the possibilities of avoiding a further dislocation of Central Europe's industry and commerce set forth in the Living Age

By JOSEPH CAILLAUX
Formerly Premier of France

(The author of this article, one of the ablest financiers France has produced within a generation, will be remembered for his bitter controversy with Clemenceau during the war, his suspected pro-German leanings, and his arrest, trial and temporary forfeiture of civil rights after the Armistice.)

A FEW months ago I read the following sentence in an English review, the *Round Table*: "England and France have drifted into being partners, who remain nominally associated, although mutual trust and loyalty, the essence of all partnership, have disappeared."

I have placed this opinion, which appears to me to be far too severe, at the head of my article, chiefly because I am told it is that of an important English politician, and because it shows, if that is so, what anxiety is felt about the future of the Franco-British entente in certain quarters.

I cannot myself subscribe to so severe a pessimism. It is not because I shut my eyes to realities, especially as, in my opinion, a union between the two countries is as essential to the maintenance of civilization as it is to the prosperity of France and of England, and I want that union to exist only on the basis of complete equality. It is rather that I am convinced that too much importance is attached to transient disagreements.

"Are these disagreements not to be taken seriously, then?" I shall be asked. Certainly they are. But it must not be forgotten that between twenty and twenty-five years ago there was as marked a tension between the two nations as there is now, and that this tension was relieved by the wisdom of the governments of the day, who decided to discuss and to negotiate. Moreover, that was not the first time in history that discussions and explanations and agreements, carrying with them mutual concessions, were enough to destroy misunderstandings between Great Britain and France which seemed insurmountable to superficial observers. Could not

what was done then be done again?

As everyone knows, the main discussion for the moment between the two peoples concerns the question of reparations. France is justly anxious to make Germany pay the sums for which the Reich has been held responsible. England is no doubt supporting her Allies, but she is thinking at the same time—I had almost said she is thinking chiefly—of seeing a revival in the great market which Central Europe was before the war.

In order that they may better understand the two points of view, perhaps my readers will allow me shortly to set out France's position. She has been obliged, and she will still further be obliged, to repair the ruins which are massed upon her soil. Whatever happens, even if she does not recover a centime of indemnity, she cannot escape from that obligation.

What has she spent and what will she have to spend on this work? Official documents will tell us. She has already paid between fifty and sixty thousand millions of francs to those whose property has been destroyed. She will have to devote a similar sum to the same expenditure during the next five years, which will bring the total to between 100 and 120 thousand millions of francs.

It is alleged abroad that compensation has been allotted upon a very exaggerated basis. It is easy to say that; but I will ask those who do so to note first of all that, when I give this figure of 120 thousand millions of francs, which seem so fantastic, I am only speaking of paper francs, of which each represents about the third of a gold franc, so that the total expenditure is reduced in reality to forty

thousand millions of gold francs at the most.

There have no doubt been, here and there, certain abuses, of which the sole beneficiaries have been one or two industrial magnates and large landowners. The Ministry of Finance admitted a few weeks ago, in the Chamber, that there had been these abuses. There have, however, been fewer in actuality than those that have been talked about. They have been magnified, partly by making separate scandals of each of them, and partly by quoting pre-war statistics without reflecting that the value of statistics is like that of notes of music: they mark different tunes according to the manner in which they are disposed.

Moreover, these abuses can be explained—I do not say they can be justified—by the illusion that was madly prevalent, "Germany will pay it all."

And now it is my turn to put a question. Who is responsible for this insensate axiom? Is it the French alone? I think not. Even before the Finance Minister of the Clemenceau Government had valued Germany's annual capacity of payment at eighteen thousand million gold marks, the British representatives, with the Governor of the Bank of England at their head, had gravely stated that Germany was in a position to pay twenty-eight thousand million gold marks a year. These dogmatic statements not only resulted in the aforesaid loose optimism in fixing the value of destroyed property, but they also led—and it cannot be denied that England insisted that they should lead—to Germany being charged under conditions of peculiarly disputable legality, with the burden of pensions to be paid to victims of the war. France was thus able to believe, and she believed in good faith, that she would be paid the damages caused to persons as well as the damage caused to goods. With some imprudence I admit, but basing herself after all on the texts of the treaties, she has borrowed money to pay her pensions. These loans amount to about sixty thousand million francs, and there remain at least thirty-six thousand millions to pay.

We thus get this total: 100 to 120

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Send in word immediately that you will lend your presence and your best thought to the Twenty-Eighth Annual Convention of the National Association of Manufacturers, New York City, May 14, 15 and 16.

thousand millions for damages to property, and ninety-six thousand millions for pensions to war victims, making 200 thousand millions of paper francs in rough figures. That is the total of what is called the recoverable expenditure.

In theory these 200 thousand millions of francs are payable by Germany. But the Reparations Commission has put on the brake. Charged by the Versailles Treaty with the duty of fixing the German indemnity, and scared by the figures which showed themselves on the horizon, the Commission has drastically cut down the bills which were presented by the different Powers.

France does not to-day possess a claim upon Germany whose present value in actual capital is more than twenty-six thousand millions of gold marks. Putting it in another way, if our late enemies paid us such a sum to-morrow, they would be clear of their obligations toward us. Now, twenty-six thousand millions of gold marks represent eighty thousand millions of paper francs. Consequently, even under the most favorable hypothesis, the whole of the indemnity to be paid in personal pensions to war victims will have to be found by the French taxpayer, and he will have, further, to pay at least a fifth, and perhaps a quarter, of the cost of restoring the devastated regions.

This burden, which he did not expect, will be terribly heavy for him. He will have to bear it, nevertheless, and he will manage to bear it. However, he would collapse under the load if, on the one hand, his claim on Germany was valueless, and if, on the other hand, the sponge were not passed over the slate of the Interallied debts. Let us speak clearly. The possibility of France returning to healthy conditions of finance depends on two conditions: first, the cancellation of the debts which the Allied or Associated countries incurred between one another during the war—I do not insist upon this point because I think I am in agreement with the greater part of British opinion and with most British statesmen—and, second, the furnishing to the French Republic of a sum equivalent to at least eighty thousand millions of paper francs.

It is around this matter that the present discussion between France and England is turning.

"You are quite right in theory," the English will say, "but in practice what you ask seems to be particularly difficult to realize. No sensible man can ignore that Germany is on the eve of a catastrophe, that she is sliding down the incline along which Austria has rushed at full speed. How can she

possibly pay the tremendous sum which she owes you?"

"Nevertheless," every Frenchman will reply, "this sum will have to be paid by some nation or by some group of nations. Why do you wish the whole burden to be borne by your ally, devastated and the conqueror, instead of by your enemy, unharmed and the conquered?"

"But we don't wish it," is the reply. "What we want to avoid is the further dislocation of Central Europe, to the great disadvantage of our country, whose commerce and whose industry is languishing and whose workers are idle, without any advantage to you, for you will get nothing from your debtor if you hasten his ruin. This debtor can only pay you on condition that you help him, that you begin by relaxing your hold and that above all you give him time."

"That policy is merely temporizing. It is a policy of weakness which benefits nobody," is our answer. "You are under an illusion if you think that by granting repeated delays, without settling the question clearly, once for all, you are helping the reconstruction of Germany."

"What a mistake!" you reply. "First of all, if this debt remains exclusively on the shoulders of Germany, it will never cease to weigh upon her credit and to depreciate her currency. Further, all the energy of her producers and of her capitalists will continue to be directed against the true interests of the whole community. They will carry on the practice of economic camouflage, which they began on the morrow of the Armistice with the sole object of escaping the burden which they foresaw. They will take the fabric of their industry to pieces and they will export their capital to foreign countries."

"We shall be no nearer being paid at the expiration of these delays than we are now, and you are only postponing the possibility of a resurrection of the great body of consumers, whose revival you quite naturally wish to see."

"Then what plan do you propose?"

There is only one possible, in my opinion at least. I have already indicated its main lines. This is not the place to explain it again and more completely. I will simply state my arguments for it.

What really is this claim for the repair of damaged property—I put aside the question of damage to persons, as this will disappear from the total at the same time as the Allied debts are canceled? Should the burden be specifically French? Who could suggest it? Who will deny that Belgium and the North of France served as a shield against the invader



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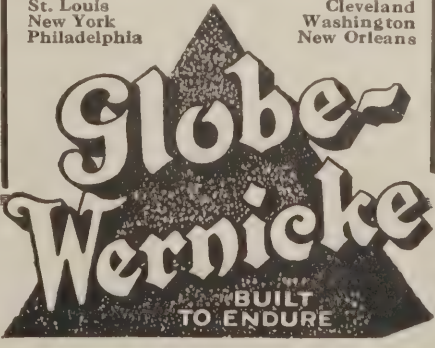
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for the benefit of all the Allies? If that is so, the responsibility of the whole of Europe—I might say of the whole world—is involved in the reconstruction of the devastated areas.

That the conquered should be condemned to pay the cost is fair enough: it is the law of war. But that the conquerors, even the neutrals, whose territory was spared, should disavow any pecuniary responsibility for what may happen to a claim, which they have done no more than hand over to the nations who have suffered for the common good, is inadmissible.

The Reparations debt must be countersigned by the whole of civilization.

What difficulties would disappear if this noble principle were adopted? On assuming this responsibility the Great Powers would reserve the right, which no one would deny them, of moderating the expenditure on Reparations, of controlling the payments in kind, of fixing delays, to which France would have no reason to object, since she would be sure of securing what was due to her in the end. These Powers could also collectively insist upon Germany furnishing such pledges as they might think would protect their monetary interests—as, for example, the Government monopolies—and rule out certain other so-called pledges which some people demand.

I do not pretend that this solution is infallible. All that I do pretend is that as long as the principle of the solidarity between nations is not taken as the base of the settlement of the Reparations question, we shall reach no result except to accentuate the divergence between Great Britain, who complains of "the bitterness and narrowness of spirit" of the French, and France, who is convinced that she is "hindered and duped," announces her conviction to everyone, and is gradually leaning toward an enterprise of chance, will perhaps throw herself into that enterprise, which will bring her nothing, and will only succeed in completing the disintegration of Europe.

The uneasiness—to speak frankly, I may say the sourness—is bound to continue and to increase, all the more

because, quite apart from our legitimate desire to be repaid, we have anxieties of another order. We fear for our safety.

Are these fears purely imaginary?

Consider the difficulties of existence of a country which is not guarded by the sea, which has not even any natural frontiers, and which, with a population of no more than thirty-nine millions, has on its borders a nation of sixty-five millions, all inspired—perhaps as the result of our errors, but that cannot be helped to-day—with the spirit of revenge.

The weakness of the French position was so well understood on the morrow of the war that in order to deal with it, without giving us the military frontier of the Rhine, it was provided in the treaty that England and America would be at our side in case of unprovoked aggression by Germany.

Many Frenchmen—not only, and I insist upon this point, the bigoted Nationalists—are led to think that their country can only be protected against German adventures in so far as the Rhineland shall form a buffer state, placed under our control, or under the control of the League of Nations, which is the concession made by those who claim to have liberal opinions.

As for me, I think that this proposed solution, based upon compulsion, not depending on the consent of the populations concerned, and not growing out of a European understanding, which cannot be realized in 1922, is deceptive. I will say more. It is infinitely dangerous for Europe, and even for France, to whom it would give a false security. It would have the certain result of feeding the spirit of revenge on the other side of the Rhine at the same time as it would set against us on this side a population which would have been detached by force, and would have been the victim of a violent decision.

There are others of my countrymen whose minds are turned in quite a different direction, and would like to revive the Russian alliance. They think of the formidable danger which Mr. Lloyd George indicated when he foresaw "an exasperated Germany arming a straving Russia." They are saying that a political understanding with the Russia of Lenin, which should be at least as close as the one we had with the Russia of the Tsars, would not only preserve us against this danger, but would forbid Germany to have any dreams or any possibilities of aggression.

Taking into consideration the German mentality, as Prussia made it and forced it to grow, it appears to me undeniable that this is one way of

ensuring peace in Europe and, what is more, however great a paradox it may seem, of preparing a renewed understanding between France and Germany.

"This policy," it will be said, "may well lead by degrees to understandings between France and the peoples of the East, which would have the danger of turning to our prejudice. Quite recent events, of which we will say nothing, since things are on the way to being arranged peacefully at Lausanne, are of a nature to arouse our doubts in this matter."

I think these doubts are exaggerated. I cannot, however, contradict them entirely; but I may, perhaps, be allowed to say that no one ought to object to France thinking first of her own interests, which may occasionally, and especially in the Mediterranean, differ from British interests, and that, above all, no one ought to object to her thinking of her security and making every effort to obtain it.

Let us unify Europe politically as well as economically. Let us bind the Great Nations to each other by political pacts and guaranties as well as by financial pacts. Let us solve the more thorny questions by methods of internationalization. That is the only way which will secure both the peace and the reconstruction of the ancient Continent and will at the same time lead her by stages toward a real unity.

To put the thing in two words, the United States of Europe is the one grave in which can be buried her old imperialism.

But has the time yet come? Are the minds of men yet ripe? The many nationalisms which were so imprudently fanned into flame during the war, and which have been fed still more madly since the peace, are eager for new adventures.

"Les dieux ont soif."

American Opportunities in Java

This is the time to consider the opportunity given to American manufacturers to acquaint the fifty million people of the Netherlands East Indies with their product. These islands are on the market for all kinds of American goods which are gaining in popularity as the people are getting better acquainted with them.

The Fourth Netherlands-Indian Fair at Bandoeng, Java, will be held from July 28th to August 12th, 1923. Space rates have been lowered considerably and other facilities to make the Fair a success have been arranged. Further particulars are available at the office of The Netherlands Chamber of Commerce in New York, Inc.

Remember These Days

May 14, 15, 16

They are the dates of the Twenty-Eighth Annual Convention of the National Association of Manufacturers, in New York City.

Come and bring some one else who is interested in the welfare of industry.

FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

ARGENTINA

Nickel-plated iron buckles for belts, from $\frac{1}{2}$ " to $2\frac{1}{2}$ " extra fine and regular grades; tanned leather, such as morocco, seal, sheepskin, etc., of different colors and designs, for manufacturing fancy leather goods; frames for ladies' handbags, unfinished for covering with leather, etc.; snap fasteners with and without celluloid for handbags, etc. A firm of manufacturers of fancy leather goods desire to hear from American manufacturers of the above with samples, prices, catalogs, etc. Correspondence in Spanish. (738)

Cotton yarns, twines, duck; cotton-seed oil, turpentine and industrial turpentine; shelf hardware, scales, ice-boxes, woodenware, rubber hose, silverware, wallpapers, painters' supplies including brushes; cutlery and binder twine. The Argentine representative of an American manufacturer of paints and varnishes desires to secure American agencies in the above lines. (739)

Machinery for cleaning and grading grain; belts, structural iron and steel, and hardware and tool iron and steel are of interest to a firm of merchants in Argentina. (740)

BRAZIL

Fine hardware, cutlery, firearms, modern optical frames, labor-saving devices and novelties, etc., for men and women are of interest to a firm of merchants in Brazil. Correspondence in Portuguese. (741)

BRITISH WEST INDIES

Household hardware, cutlery, bicycles, paints, varnishes, oils, rope and twine; house furnishings of all kinds; barbed wire and fence material, harness and saddlery; dry goods including wearing apparel; writing paper, food products; patent medicines; bottles and leather, are of interest to a general merchant in Trinidad. (742)

CUBA

Horse clothing, harness and saddlery; furniture and house furnishing goods; boots and shoes, food products and leather of all kinds. The inquirers desire to secure American agency connections for Cuba. Correspondence in Spanish. (743)

Odorless wooden packages or containers for keeping fruit pulp prepared during the harvest season for a year without spoiling is of interest to a manufacturers of preserves, etc., in Cuba. Correspondence in Spanish. (744)

Nails, barbed wire, bars, angles, steel sheets, hardware generally and sanitary products are of interest to a merchant in Cuba. (745)

MEXICO

Hard insulating rubber for parts of magnetos, etc.; red fibre insulation in rods, sheets and tubes; special gloves and gauntlets for automobilists, chauffeurs and mechanics are of interest to a merchant in Mexico. Correspondence in Spanish. (746)

Machinery for the manufacture of buttons for wearing apparel of pepper and salt cloth as well as fasteners



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Also adaptable for chemical industries, etc. Office building with complete laboratories, residential building, machine shop, garages, etc.

Address Factory, American Industries

to hold these buttons, articles of interest to a firm of clothing manufacturers in Mexico. Correspondence in Spanish. (747)

Machinery for wiring or strapping of boxes is of interest to a firm of importers in Mexico who desire catalogs and price-lists. (748)

Number plates for houses, enameled, made of zinc, tin or iron; amount required will be about 250,000 plates of 3 x 4 or 4 x 6 inches, colored. The inquiry comes from Mexico. (749)

PORTO RICO

Stencils of metal, paper or cardboard for decoration of glass plate are of interest to a firm of plate glass makers in Porto Rico. (750)

Cereals, grain, pharmaceutical

goods, small and heavy hardware, toilet supplies, phonographs, electrical and gas fittings and supplies. The above articles are of interest to a firm of merchants in Porto Rico. (664)

AUSTRIA

Coffee, tea, spices, rice, lard and compound lard and edible oils are of interest to a buyer for Austria and the Balkans, who desires to hear from manufacturers in a position to furnish carload lots. Correspondence in German. (751)

Woodworking machines, saw mill machinery and carpenters' and woodworkers' tools. A firm of tool and machinery merchants in Vienna desires to hear from American manufacturers. (663)

BELGIUM

Hardware of all kinds, house furnishing goods, paper and stationery, food products, also smokers' supplies are of interest to a manufacturer's agent in Belgium. Correspondence in French. (752)

FINLAND

Raw materials for the glass industry; machinery, moulds and tools for the glass industry; celluloid envelopes for glass stands and similar lines are of interest to a firm in Finland. (753)

GERMANY

Dark cotton grease and cotton oil acids, also other waste material of all kinds from cotton and cotton-seed working, are of interest to a firm of German importers, who would be interested in lots of twenty-five tons at a time. Correspondence in German. (754)

Provisions, canned goods, dried fruits and packers' products are of interest to a firm of merchants in Germany. (755)

HOLLAND

Pure lard, bacon, oleo stock, oil and stearine, etc. for Holland. A firm of oil and fat brokers in Rotterdam desires to import the above articles from the United States. (756)

Undertakers' supplies and accessories of all kinds are of interest to

an undertaker's concern in Holland. (757)

GIBRALTAR

Tobacco cutting machines are of interest to a firm of cigar and cigarette makers in Gibraltar. (758)

SWEDEN

Machinery and apparatus for making cork, including tools for slicing the cork-wood, automatic cutting machines for punching the cork from the sliced wood, printing machines for burning the name of firm in both ends of cork; paraffin machines for applying a thin paraffin coat on cork. The above apparatus is of interest to a firm of cork manufacturers in Sweden. (759)

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Chicago Office: First National Bank Building, Chicago, Ill.

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SPAIN

General importer and manufacturers' representative wants to hear from Manufacturers (not jobbers) of greases, lubricants and oils; paints and varnishes; hard rubber goods such as combs, etc.; cutlery including safety razors; hardware; tools, mechanical and carpenters'; office appliances; electrical supplies; motors and dynamos; rubber goods; farm implements; lightweight motorcycles; kitchen ware, aluminum, porcelain, granite and enamel; hosiery; washable ribbons.

This importer pays cash for salable goods. Offers need not come from others than Manufacturers who are enough interested in the above market and in position to adjust prices so as to meet European quotations.

Address to D. B. L., c/o American Industries.

Production and Sales Engineer

recently sales organizer and advisor for United States Navy and Army; graduate of Yale in Mechanical and Electrical Engineering, would like to enter large organization requiring competent and ambitious sales and advertising manager or assistant to chief executive where there is room for mutual expansion. Address, Engineer,

AMERICAN INDUSTRIES

50 Church Street, New York City

SWITZERLAND

Oat flakes and similar foods, crystallized sugar, coffee, lard and California dried fruits for Switzerland. The inquirers desire to secure American agency connections. Correspondence in French. (760)

POLAND

Boots and shoes, upper leather such as box calf, kid, etc., also other leather of all kinds except sole leather; rubber footwear, rubber tires for bicycles and automobiles, rubber threads, typewriters, watch crystals and similar articles. The inquirer desires American agency connections for the above. (662)

EGYPT

Accessories for automobiles, also accessories for Ford cars in particular are of interest to a firm of merchants and agents in Egypt. (763)

MESOPOTAMIA

Cigarette paper is wanted by an export and import merchant in Basrah City, who states that he has been established twenty years in the export and import business. (764)

Brazilian and Colombian coffee, raw, green and yellow, for Mesopotamia. The inquirer desires samples and quotations per cwt., c. i. f. Basrah, bags to contain 1¼ cwt, net. (765)

Stationery goods of all kinds such as pencils, pens and penholders, photographic paper, are of interest to a merchant in Palestine, who desires agencies in this line for Palestine, Syria and Egypt. Correspondence in German. (766)

INDIA

Aluminum ingots, sheets; copper wire and rods; rosin; playing cards; tinplates; iron screens, hinges; patent medicines and ointments, vaseline; bleached yarns and cotton piece goods. A native merchant in India desires to hear from American manufacturers of the above. (767)

FRENCH WEST AFRICA

Hardware of all kinds, corrugated iron, ornamental sheet metal work, wooden and willow-ware, kitchen utensils, china and glassware, cotton prints, gingham, sheetings, shirtings, etc.; blankets, table linens and towels, handkerchiefs, hosiery and underwear, notions, boots and shoes, hats, haberdashery, rubber clothing; flour; tobacco and smokers' supplies for the Ivory Coast. A firm of traders in French West Africa states that they are interested in all the above lines, and more particularly in cotton goods and satins. They desire to receive samples and quotations. Correspondence in French. (768)

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Those dollars you have worked hard for and laid by—how much should they earn for you?

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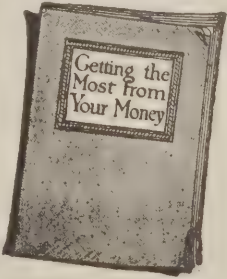
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Memo for Your Secretary

Write Babson's Statistical Organization, Wellesley Hills, 82, Mass., as follows: Please send me Booklet C71 "Getting the Most From Your Money," gratis.



ARGENTINE and URUGUAY

Representation for the Argentine and Uruguay of reliable American manufacturers of goods sold to hardware and paint trade (except paint and varnishes) solicited by a man of experience, already representing SAPOLIN Decorative Specialties.

References can be obtained from the manufacturers Messrs. Gerstendorfer Bros., 231 East 42nd St., New York City.

F. Alvarez de Toledo, Pasa-je Belgrano 15, Buenos Aires.

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Correspondence invited

AUSTRALIA

Automobile body accessories and parts, such as hood cloth, fasteners, celluloid, etc.; also rosin, turpentine, gums, waxes, etc., for Australia. The inquirers desire to secure American agency connections in the above. (761)

NEW ZEALAND

Machinery and machinery supplies, on agency basis, are being looked for by a well-recommended firm of New Zealand agents, who plan to be in Chicago and New York during the month of May. (762)

Those Unsettled War Claims

(Continued from page 14)

tion and exhibits, transcribing testimony, printing briefs, and time and traveling expenses of counsel in preparing and handling the case. Such expenses are not disproportionate to those customarily incurred in other courts.

The court has jurisdiction of any claim arising under contracts made by the United States. Appeal may be made to the Supreme Court of the United States in any case involving more than \$3,000. The statute of limitations runs against any claim six years from the date the claim accrued. In other words, petition must be filed in court within six years after the right of action accrued. The court has no jurisdiction of claims not filed within this time and where the statute has run the only remedy of a claimant is through Congressional action.

It is doubtless true that notwithstanding the efficient work of the various War Department Claims Boards, there is still a very considerable number of outstanding claims that will yet come to the Court of Claims for final determination. There is perhaps a larger number of Navy Department claims which, failing special Congressional relief, will necessarily come to this court. The court is well equipped for the expeditious handling and consideration of all such claims and it is only right and proper that the taxpayers at large and not the individual contractors should bear the losses resulting from the war time activities of the government wherever such losses were incurred in attempting to comply with orders and directions of responsible government officers. During war time it was urged upon all those who had facilities that could be utilized in the public defense as a patriotic duty to so utilize them. One hears a great deal of talk of late about alleged war profiteers, but those familiar with the facts know that for one profiteer there were a thousand citizens who without thought of substantial profit gave their best efforts to supplying our troops with the equip-

ment which was necessary. This country is great enough and large enough to pay reasonably for all the services thus rendered, and every honest claim for honest service rendered in this connection ought to be paid.

Minnesota's Bricklaying School

(Continued from page 26)

of modern brick work. He is also taught to keep his work well tied together so as to make a strong job.

As the student progresses he is put on more difficult work such as fire-places and fancy bricklaying so that when he leaves school he will know how to handle any job that he may be put on.

Our system is to have the student take his time at the start and do his work as perfect as possible and to then develop all the speed he can.

We teach mixing mortar of different colors. We also instruct the student to take work from plans.

As the student advances we endeavor to place him on actual construction work under the supervision of the contractors who are supporting the school, allowing the student credit for attendance on this work the same as if he was attending school, the contractor paying the student such wages as the Committee in charge of the school decides.

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Cotton Machinery Needed in Near East

By JANE HILL
Near East Relief

American machinery is badly needed in the Transcaucasian republics to revive the cotton industry. The once fertile cotton fields of these republics are now unplanted because there is no certainty of a market and because the limited spinning and weaving capacity of the republic consumes practically nothing.

Forty thousand dollars worth of modern American spinning machinery would clothe the Caucasus, provide all material for clothing the war orphans under American care and revive the cotton. This is the estimate of Dr. C. J. Googinian of Los Angeles, former director of works for the California Petroleum Company, Ltd.

With two entire nations of the Transcaucasian republics reduced to rags after seven years of war and invasion, literally thousands are dependent upon the ancient spinning wheel.

In Erivan, the captial of Armenia, three hundred old wheels are whirling

at a mad but feeble rate to provide a sufficient quantity of spun cotton for looms with which American relief workers are producing under-clothing. There are 25,000 war orphans thus to be provided for.

According to Major R. D. Yowell, of Washington, D. C., superintendent of Near East Relief industries for the Caucasus, cotton-raising would expedite the recovery of the country more readily than wheat growing if pre-war markets were restored over Europe. Now, without wheat from Russia, the Caucasus is compelled to raise grain for food. When Russia regains her normal output, Caucasus wheat will be in less demand. Before war destroyed the industries of the country, the price of cotton was six times higher than the price of wheat.

American relief workers have been a big factor in introducing modern machinery in the Near East, the most notable example being the importation of American farming implements for tilling 18,000 acres of land. Thanks to Yankee ingenuity there was a harvest in Armenia last autumn for the first time in five years.

The 100,000 war orphans under American care are expected to play an important part in reviving the industrial life of the country. In as much as these boys and girls are being instilled with American ideals and being trained in modern ways, it is believed that when the affairs of the Near East are more tranquil, there will be a big demand for American machinery. Relief activities have opened the way.

FOREIGN TRADE CONVENTION

The Tenth National Foreign Trade Convention of the National Foreign Trade Council will be held in New Orleans on April 25, 26, 27, 1923, according to announcement of O. K. Davis, Secretary of the Council.

"The selection of New Orleans as the convention city," said Mr. Davis, "is peculiarly fitting in view of the development of the city as a great center of American foreign trading activity. In 1921 New Orleans was the second port of the United States, importing coffee, sisal, burlaps, bananas, crude oil, and sugar; and exporting corn, rice, wheat, cotton, glucose, steel rods (not wire), iron pipes, steel plates and sheets, lard, cottonseed cake, meal and oil, mineral oils, tobacco and lumber."

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2. "Compass," General Business Directory of Germany, Austria, Czechoslovakia, Poland, Hungary and Yugoslavia, in three volumes, for 1922. Printed in German. Original cost \$5.50. Selling price \$2.00, without postage.
3. "Compass," for 1921, same as above. Original cost \$4.50. Selling price \$1.50, without postage.
4. Post Office London Directory with County Suburbs for 1922, comprising, amongst other information, official, streets, law, private residents, parliamentary, postal, city, municipal, clerical, conveyance, banking, commercial and trades directories, together with sections relating to the county suburbs. Also contains maps, and full details on commercial stamp duties, chambers of commerce, etc. Original cost, \$25.00. Selling price \$10.00, without postage.
5. Australia—Queensland Post Office Directory for 1920-1921, including Port Moresby, Papua (New Guinea) and Darwin, Northern Territory. Contains street directories of Brisbane, Bundaberg, Charters Towers, Ipswich, Maryborough, Toowoomba, Rockhampton, and Townsville. 1500 separate alphabetical directories of townships, boroughs, and districts. An alphabetical directory and a trade directory for all of Queensland. Original cost \$12.00. Selling price \$2.50, without postage.
6. Holland. Complete alphabetical and business directory of Holland, in two volumes. 1920 edition. Original cost \$9.70. Selling price \$2.00, without postage.
7. Directory of Spain for 1921 in two volumes. Contains complete alphabetical and business as well as street directories of all of Spain. Printed in Spanish. Original cost \$12.00. Selling price \$2.50, without postage.
8. Argentina. General directory of Argentina, in two volumes, with alphabetical and street guides, also separate headings for business, industries, professions, etc. 1920 edition. Printed in Spanish. Original cost \$14.00. Selling price \$4.00, without postage.
9. France. "Didot-Bottin" 1921 Directory of Paris in two volumes. Alphabetical and street directory, also directory of merchants, manufacturers, agents, professions, etc., under proper headings. Printed in French. Selling price \$3.00, without postage.
10. Directory of Belgium for 1912. Complete with separate headings for the various trades, industries, etc. Also alphabetical index and maps. Printed in French. Selling price \$1.00, without postage.
11. Ryland's Coal, Iron, Steel, Tin Plate, Metal, Engineering and Allied Trades' Directory of England with brands and trade marks for 1920. Original cost \$100. Selling price \$2.50, without postage.
12. The "Electrician" Directory and Handbook of the Electrical Engineering and Allied Trades for 1919 of England and Colonies. Selling price \$1.50, without postage.
13. The "Electrician" Tables of Electricity Undertakings for 1920, containing particulars of supply in the United Kingdom, the colonies and Foreign Countries. Selling price \$1.00, without postage.

ADDRESS: FOREIGN DEPARTMENT

National Association of Manufacturers
50 Church Street, New York City

The Communists And The Nation

(Continued from page 12)

paign for re-entry into the A. F. of L. as organized groups."

"The work of the Trade Union Educational League was highly commended at the Second Congress. * * * The League was named the official representative of the Red International of Labor Unions in the United States."

Quoting further from Lenine: "CIVIL WAR IS UNTHINKABLE WITHOUT THE WORST KIND OF DESTRUCTION, without terror and limitations of the form of democracy in the interests of the war. One must be a sickly sentimentalist not to be able to see, to understand, and appreciate this necessity."

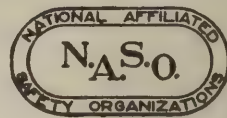
Does Lenine, the leader of international Communist Socialism, think American Communists will follow the lead of Russia, and bring civil war with "the worst kind of destruction?" He says: "The best representatives of the American proletariat—those representatives who have repeatedly given expression of their full solidarity with us, the Bosheviks—are the expression of this revolutionary tradition in the life of the American people. * * * The American working class will not follow the lead of its bourgeoisie. It will go with us against the bourgeoisie." He then refers to the future in America; to "the day of the victorious proletarian revolution."

The author does not believe the Communists will ever gain even temporary control in the United States. The American people as a whole, all sections of them, are too practical to believe in visions spread before their eyes and dinned into their ears, especially when they learn that such "visions" are to be brought into existence by bloody revolution, and that Communism urges the practical annihilation both of religion and of the family.

But the Communists can, by spreading poison in the minds of American workers, cause great harm by promoting general discontent, a general feeling that employers are "robbers," and may cause actual national suffering by causing or seizing the leadership in national strikes in our great vital industries.

What should employers do?

It is their duty to explain to the workers the real facts about the industrial system, so that they will not be fooled by the clever statements of the radical. The workers should know what the problems of management are, what are the simple economic truths of industrial life. They should know the merits of our present industrial system; the defects of the socialistic vision and theory of production.



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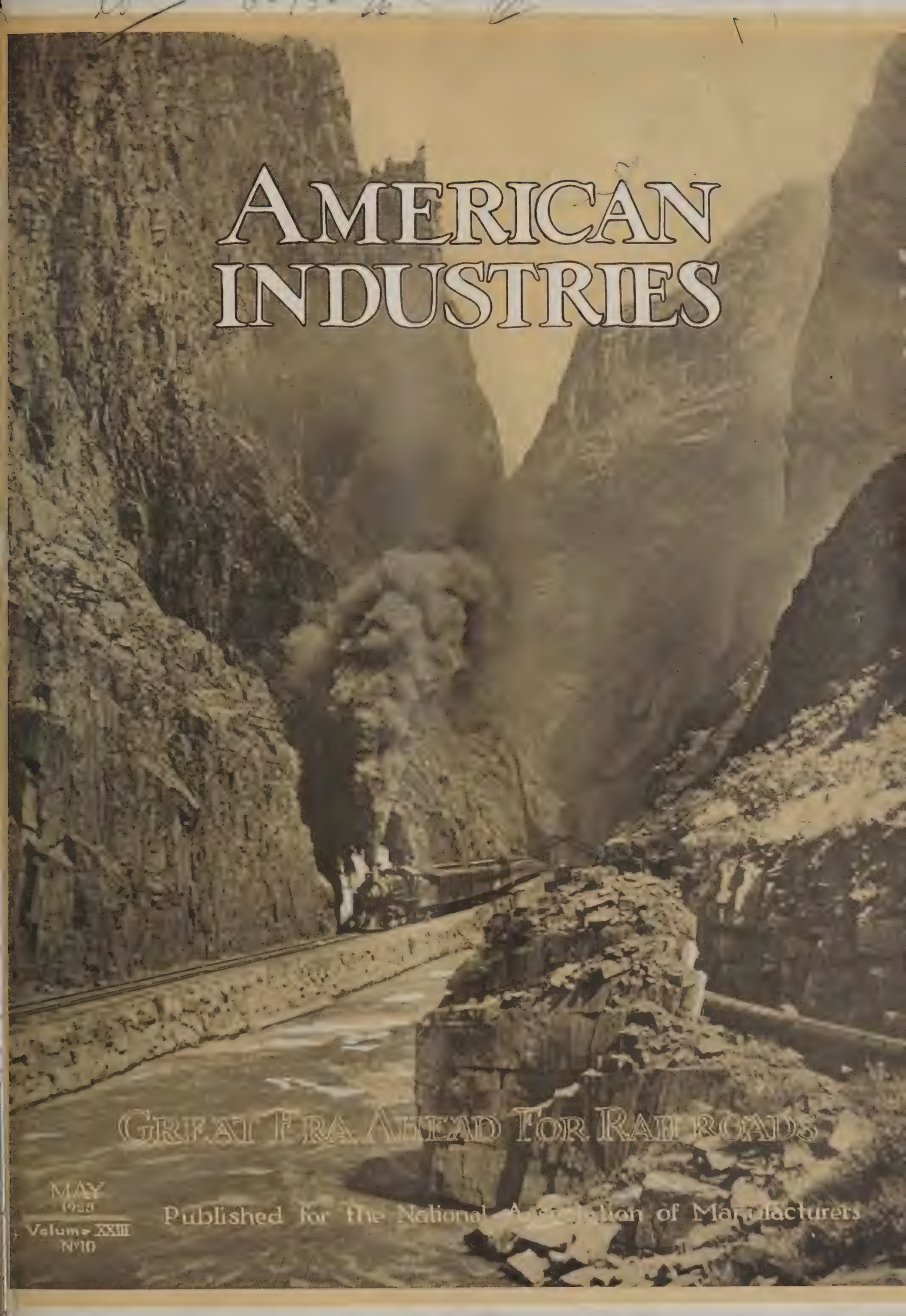
Stretchers—Sanitary metal stretchers which can also be used as cots.

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The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.



AMERICAN INDUSTRIES

GREAT TRA AHEAD FOR RAILROADS

MAY
1939

Volume XXIII
No. 10

Published for the National Association of Manufacturers

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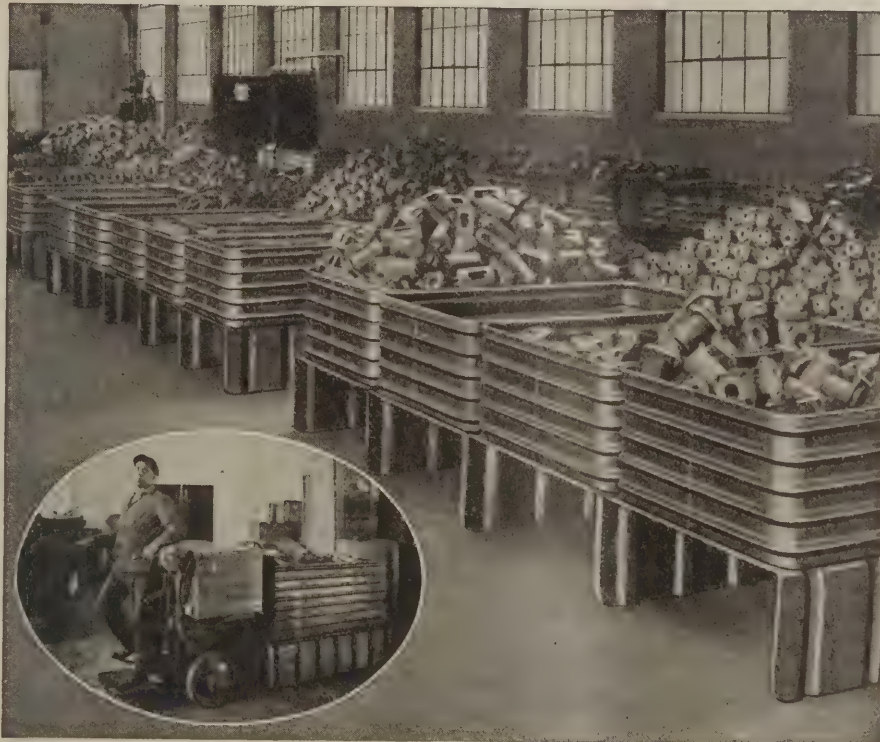
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Other sizes furnished to meet special requirements.

When ordering or writing for information, indicate quantity, length, width, clearance height and width of truck.


Attached stakeholders, handles, etc., provided if ordered.

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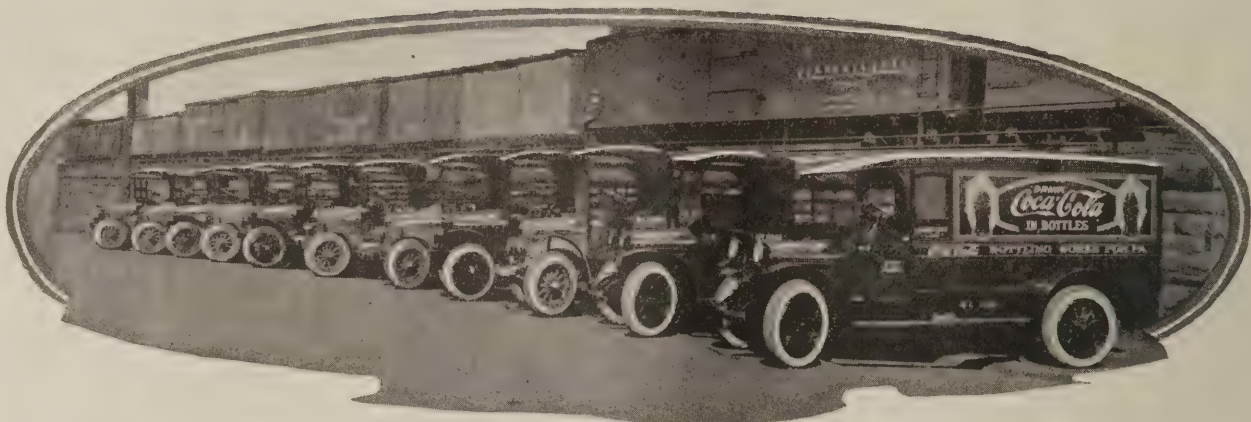
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No. 10

IN THIS ISSUE

Cover illustration: Running through the Royal Gorge, one of the most beautiful sections of our great railroad systems.

BILLION AND A HALF FOR RAILROADS - - - - - 5

By John L. Leighton.

THE CONVENTION OF THE NATIONAL ASSOCIATION OF MANUFACTURERS 8

THE MISSISSIPPI VALLEY, FEEDER TO THE WORLD - - - - - 9

By Walter Parker, General Manager, New Orleans Association of Commerce.

MINIMUM WAGE LAW VOID - - - - - 14

SAVING MILLIONS BY SIMPLIFICATION - - - - - 15

By Ray M. Hudson, Division of Simplified Practice, Department of Commerce.

HIGH BRICKLAYING AND HIGH COSTS - - - - - 20

A SYMPOSIUM:

WHAT WOMEN THINK OF THE OPEN SHOP - - - - - 21

Contributed to by MRS. MARGARET C. ROBINSON, President, Massachusetts Public Interests League (page 21); MRS. CHARLES TUPPER NASH, New York State Regent, Daughters of the American Revolution (page 21); MRS. NORMAN DE R. WHITEHOUSE, President, Whitehouse Leather Products, Inc. (page 22); MISS MARY G. KILBRETH, President, The Woman Patriot (page 22); MISS MINNIE BREWER, President, The Woman Voter (page 23); MRS. EDNA J. DUNLOP, President, Women's Advertising Club of Milwaukee (page 23); MISS MERICA EVANS HOAGLAND, Director Mutual Service, Diamond Chain and Manufacturing Company (page 24); MRS. CATHARINE R. CHENOWETH, Founder, Society of Daughters of Holland Dames (page 24); MRS. W. H. CORLETT, Women's Club of Cleveland (page 25); MRS. WILLIAM E. BLISS, Vice-President, Meriden Women's Club (page 25); MRS. ISABELLE IVES MESSENGER, Secretary, New York State Federation of Women's Clubs (page 27).

EDITORIAL - - - - - 26

PORTS OF THE NATION—MOBILE - - - - - 29

By Gordon Smith, President, Mobile Chamber of Commerce.

SEAPOWDER AND NATIONAL PROSPERITY - - - - - 33

By Lieutenant-Commander R. R. M. Emmet, Bureau of Navigation, United States Navy.

THE ELECTRICAL INDUSTRIES AND THE COAL SITUATION - - - - - 36

By John W. Lieb, Vice-President, New York Edison Company.

FOREIGN TRADE OPPORTUNITIES - - - - - 42

DIFFICULTIES OF FOREIGN AGENTS - - - - - 44



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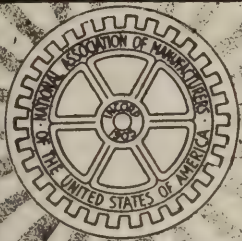
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AMERICAN INDUSTRIES

THE NATIONAL MAGAZINE FOR MANUFACTURERS

D. M. EDWARDS Editor and Manager

Vol. XXIII

MAY, 1923

No. 10

Billion And A Half For Railroads

Extensive betterment program planned for the various systems in two years contemplates new construction work, purchase of new equipment, repair of old and increase in the daily car movement

Written especially for AMERICAN INDUSTRIES

By JOHN L. LEIGHTON

THE sum of \$1,540,000,000 is a great deal of money. That is the amount the railroads will have spent in two years in improving American railroad service by the end of this year. About the only railroad figure which looks anything like it is the \$1,800,000,000 deficit incurred as the result of two years' Government operation.

That this sum will be spent was announced following a joint meeting of the American Railway Association and the Association of Railway Executives early in April in New York. A study of the plans of the individual railroads of the country made by the American Railway Association, which serves as a clearing house of information for all matters affecting railroad transportation, showed that the needs of the individual railroads to adequately meet the country's needs for railroad transportation called for a collective expenditure of \$1,540,000,000. About \$440,000,000 of this sum was spent in 1922; the balance will be used this year.

The enormously heavy traffic of last autumn and throughout the winter, coupled with the anticipation of an even greater volume of traffic in the fall of this year, were the principal factors which led to these extensive plans for increasing the capacity of railroad transportation. The final determination of the individual systems to embark on their programs was, of course, intimately connected with the belief that the railroads in this year will show better earnings than in any year since released from Government operation. In other words, the railroads expect that net operating incomes will improve sufficiently to warrant these capital expenditures. Also, the realization that Congress will not be able to disturb for at least another year the principal legislative provisions under which the railroads are now operating, was instrumental in making enlargement and betterment programs possible. The announcement of April 5 said:

"The railroads of the country are raising this enormous amount of addi-

tional capital through borrowed money on the abiding faith in the fairness of the American people and reliance on the continuance of the policy announced in the Transportation Act of 1920, as a measure of reasonable protection to investment in railroad property."

Capital expenditures of \$1,540,000,000 mean increased interest charges, for the greater part of this money can be raised probably only by additions to funded debt or by equipment trusts. Of the total amount of new railroad capital raised in 1922 which totaled about \$524,000,000, only \$27,000,000, or about four per cent was represented by issues of capital stock. Interest charges on \$1,540,000,000 at six per cent total approximately \$93,000,000 a year. This amount is equal to about one-eighth of the entire net earnings of all the railroads last year. Capital charges of this magnitude will make the railroads' efforts exceedingly expensive to the railroad companies, and though the American public will unquestionably derive enormous benefits

A CONVENTION WITH A PURPOSE

The Convention of the National Association of Manufacturers, at the Waldorf-Astoria Hotel, New York, May 14, 15 and 16, will be a convention for manufacturers.

It will be the outstanding conference of the year for manufacturers—discussing and taking action on those subjects that are of first importance to the nation's industry.

Every manufacturer interested in national industrial problems is urged to attend.

from the fulfillment of the present program, to what extent the railroads will better their position is entirely problematic.

The details of the plans include new construction work, the continued purchase of new equipment, wholesale repair of existing equipment and intensive co-operation to increase the average daily car movement, and average car loading, and the more efficient use of existing facilities.

Regarding new construction, it is well known that many of the larger systems such as the New York Central, Pennsylvania, Santa Fe, Southern Pacific and many others, have had for some time extensive plans for the enlargement of their terminal, extra tracking, reconstruction of line and increased facilities in general.

Regarding the purchase of new equipment the recent statement points out that from January 1st, 1922, to March 15th this year, the railroads purchased 223,616 new freight cars, of which 117,280 had been delivered and put in service. New locomotives bought in this period totaled 4,219, of which 2,106 had already been placed in service. Since the first of the year purchases of new equipment totaled up to April 7th, 1,412 locomotives, 51,670 freight cars and 715 passenger cars.

Purchases of new equipment in such volume as this calls for additional facilities of all kinds. There is a maximum use to which given equipment can be put with given facilities, and any excess of equipment beyond that point is more likely to retard traffic than accelerate it. It is usually estimated that one dollar invested in new equipment eventually calls for three or four dollars in increased facilities, such as larger shops, more terminal space and increased trackage.

Some of the additions and betterments planned are seen in the programs of the individual companies as recently reported by them in answer to a questionnaire issued by the National Coal Association. While these are not necessarily complete, they are indicative of the extent to which railroad facilities are being enlarged.

The Louisville & Nashville Railroad reported that in 1922 it contracted for 5,103 cars and 2,000 steel hopper cars, delivery on which was expected by April 1st, plus 16 locomotives. For 1923 the road has appropriated \$20,129,600 (the largest appropriation in its history), for the purchase of 4,000 all-steel hopper cars and 2,000 hopper gondola cars and 30 Mikado locomotives.

The Pennsylvania Railroad has ordered 375 locomotives for delivery this year in addition to the 100 deliv-

ered last autumn. It is making extensive improvements in the facilities of its yards and terminals in the principal cities and laying extra tracks on the chief lines.

The Illinois Central Railroad ordered 5,000 gondola cars and 140 locomotives in 1922, and in January this year ordered another 5,000 gondola cars, and 50 locomotives, all to be delivered before July 1. The expansion program calls for the expenditure of \$45,500,000 in 1923; \$18,500,000 of this amount will be spent on new equipment, and \$27,000,000 on the construction of new roadway, improvements and increases of other facilities, work upon which has already started.

The Norfolk and Western has just received 6,000 70-ton all-steel cars, and is expecting from the builders 30 heavy freight locomotives. The budget for improvements in 1923 calls for the expenditure of six or seven million dollars. Electrification of about 30 miles of the main line in the coal fields is being undertaken.

The Central Railroad of New Jersey has rebuilt 2,000 coal cars and is awaiting delivery of 46 new freight locomotives. There is also an extensive program for improvements in its terminals, and in the reduction of grade crossings.

The Philadelphia & Reading reports that in 1922 it added 2,000 coal cars of 70-ton capacity each, and 25 consolidation locomotives to its equipment. It has also contracted for 1,000 70-ton gondola cars, delivery of which is being made.

The Pere Marquette Railway has an order for 1,500 automobile cars and 500 steel coal cars. The total amount of its budget for improvements is approximately \$10,000,000, and calls for double tracking in many places and a general improvement of the existing facilities.

The New York Central Lines have purchased 11,000 open top cars and have put 13,300 open top cars through heavy repairs and renewals. It also has purchased 250 heavy freight locomotives. The total cost of the new equipment is \$54,000,000, and for repairs to equipment, \$37,000,000. The budget for other improvements totals \$50,000,000, and calls for double tracking, new yards, extra main tracks, reduction of grade crossings, a new bridge over the Niagara River, new stations and general improvements in yard and terminal facilities.

The Chesapeake and Ohio expects delivery in the present year of 3,000 steel coal cars costing \$4,378,000; 50 freight locomotives costing approximately \$4,125,000, and other new

equipment, bringing the total up to \$14,591,000. In addition, the 1923 budget calls for \$12,000,000 in improvements, including the new coal pier at Newport News, new sidings and extensions, additional storage yards, the rebuilding of ten bridges and the general improvement of existing facilities.

The Lehigh Valley Railroad is receiving delivery on 30 new freight locomotives. The first unit of the new Claremont Terminal in Jersey City is now in use. The pier of the Claremont Terminal is two-thirds of a mile in length, 400 feet wide and is served by a yard of 2,700-car capacity. It is located on a tract of 535 acres. The three piers of the new terminal will offer 5½ miles of berthing space and will accommodate more than thirty ships of the size of the *Aquitania* or the *Majestic*. The terminal is readily accessible by motor truck.

The Delaware, Lackawanna and Western is awaiting delivery of 15 large Mikado locomotives.

The Wabash Railway is having delivered 1,500 new automobile cars, 2,800 new coal cars and 25 new passenger cars. Its program called for the reconditioning of 90 per cent of its motive power by April. Total expenditures for new equipment and additional facilities this year amount to \$7,500,000.

The Missouri Pacific is repairing 2,000 coal cars. Last year it bought 46 heavy freight locomotives. The 1923 budget calls for expenditures amounting to a little over eight million dollars to be spent in the strengthening and replacing of bridges, additional yards, tracks and sidings, improved station facilities, water station improvements, new shop buildings and engine houses and new shop machinery and tools.

The Southern Railway this year has ordered 2,865 coal cars and 3,070 box cars. In addition 2,000 coal cars in bad order are being repaired in the company's shops.

The Chicago, Rock Island & Pacific has bought 700 new coal cars, 60 freight locomotives and 20 passenger locomotives. 1,500 other types of freight cars are on order. The total expenditures contemplated for this year will total \$18,000,000, which will include the construction of additional main tracks, the enlargement of terminals, and installation of automatic train control system.

The Virginian Railway, which is almost exclusively a coal carrying road, has on order 15 new large freight locomotives and is receiving bids for the electrification of its main line from Elmore, W. Va. to Roanoke. At Sewell's Point it is erecting a new coal

pier at the cost of about \$3,000,000.

The Atchison, Topeka & Santa Fe has on order at the present time about \$22,708,500 in new equipment including 7,150 freight cars and 59 locomotives. It expects to spend about \$2,000,000 a month throughout this year for additions and betterments in all classes of construction, including double tracking of its main line.

The Union Pacific has ordered 103 new freight locomotives. Details of the other improvements contemplated have not yet been announced.

The Chicago & Eastern Illinois is carrying out an extensive maintenance of way program calling for \$1,000,000. About the same amount will be spent on renewing and strengthening bridges, expanding passing sidings, installing automatic block signals, and in the construction of new water stations, and other facilities. It has recently bought 20 new locomotives. The total expenditures for the year will be about \$4,000,000.

The program for repair of equipment calls for a reduction of bad order freight cars to five per cent of the total in the country, and of locomotives to fifteen per cent by October 1st, at which time the peak movement of traffic ordinarily begins. While current reports of the activities of individual companies show that many of them are letting out large contracts for the complete reconditioning of large numbers of freight cars, the progress made in restoring equipment to good condition since the shop strike must not be overlooked.

The peak of bad order cars as a result of the shopmen's strike was reached in August of last year, at which time about 345,000 cars, or fifteen per cent of the total on line, were in bad order. Since that time equipment conditions have improved steadily and on March 15th only a little over nine per cent were in bad order. This is the smallest percentage in more than two years. Similar, but perhaps less marked progress, has been made with locomotives. It can be said, therefore, that much of the work of restoring equipment to good condition has been accomplished already.

The program shows that the roads will endeavor to increase the average loading of all cars to 30 tons per car for the entire country, and for the prompt unloading of cars, and a decrease in the empty movement. The daily average movement the roads expect to increase to 30 miles a day. The average daily movement of cars in November 1922, was 27.1 miles and the average loading of all cars 28.2 tons.

These improvements in service the roads expect to accomplish with the help of the active and comprehensive

organization of the Car Service Division of the American Railway Association, which will have charge of the central control and distribution of all freight cars. Particular efforts will be directed towards rendering the movement of grain and grain products as efficient as possible.

The railroads are not unmindful of the assistance which the coöperation of shippers during recent years have given to lift American railroad performance to higher levels, and they are hopeful in the coming year for this same coöperation, not only on the part of the shippers, but on the part of the public in general.

One way in which the public may assist in the movement of the anticipated heavy traffic of this autumn is by ordering and shipping of coal earlier in the year than has been the usual custom. The announcement of last week calls upon the roads to order and ship as much coal for their own use before September 1st as is possible, thereby releasing equipment for the handling of commercial traffic. Regarding the movement of commercial coal—and the principle applies to other commodities as well—the statement says:

"Every shipment which by foresight can be dispatched during April, May, June or July will help decrease any congestion in September, October or November. Every shipper who will load cars to capacity and every consignee who will promptly unload cars will, by so doing, save the equivalent of many cars for the benefit of all shippers."

In considering the significance of the 1923 programs the results accomplished in 1922 must not be overlooked. In spite of the shopmen's strike last summer and the anthracite miner's strike, the railroad year 1922 was the best of any year since the termination of Federal control, for, in spite of the high prices for fuel, material and supplies, the railroads cut over a billion dollars off their annual operating costs. Only about one-third of this was in decreased wages, the remaining two-thirds being accomplished by increased efficiency and operating economies. For instance, the traffic of last year was approximately the same as that of 1920 and yet it was handled with an average of 1,645,000 employees as against an average of 2,012,000 employees in 1920. At the same time railroad wages have remained well above the cost of living.

These reductions in transportation costs have been passed along to the country by the saving of more than a half billion dollars in the nation's freight bill through rate reductions. Rates, according to a recent statement of the Interstate Commerce

Commission, bear about the same relation to commodity values as they did in 1913.

It is important to remember that these improvements have been accomplished by an industry which did not benefit from the high prices prevailing during the period of war inflation. In fact in the war years the railroads' net earnings, because wages and costs increased much faster than did gross revenues, reached the vanishing point in 1920. At the same time the standard return allowed them as a rental in the years of Federal control was based on 1915 dollars, which did not go very far in 1919 and 1920. The progress which they have made in the past three years, therefore, is all the more creditable; probably no other basic industry in the country can show a better recovery from war conditions.

The progress, and the collective programs for the coming year, offer interesting comparisons with the plans announced by many of the so-called "Progressives" of the coming Congress, who apparently intend to revise all railroad legislation and solve the so-called railroad problem by re-introducing the 135 railroad bills left over from the last Congress.

It cannot be said that their legislative prescriptions represent any well thought out and systematized study of the real remedies for existing conditions. On the other hand, the plans of the railroads themselves are the result of comprehensive and coördinated study, the conclusions of which are based on the knowledge of railroad transportation conditions gained from practical experience.

The railroads' programs show clearly that the ability to provide the American public with adequate railroad transportation is where the responsibility for railroad performance lies. That responsibility is well placed.

LEHIGH ORDERS LOCOMOTIVES

The Lehigh Valley has ordered forty freight locomotives from the American Locomotive Company, and will shortly place an order for ten passenger engines, it was announced by President E. E. Loomis of that road. The new freight engines will be of the Mikado type (four driving wheels) equipped with automatic stokers and boosters.

The passenger engines will be of the Pacific type (three driving wheels) and also will have the stokers and booster equipment ordered for the freight locomotives. Boosters, on passenger engines, are expected, in addition to furnishing greater power in starting trains, to eliminate the unpleasant jerking which comes with the use of heavy steel passenger cars.

Convention With A Distinction

National Association of Manufacturers' annual meeting in New York this month, will be a convention of the manufacturers, for the manufacturers and by the manufacturers for the good of the nation

CONFRONTED with usual problems of production and labor affecting the business stability of the entire country, and other specific industrial questions, the National Association of Manufacturers will hold its annual convention at the Waldorf-Astoria Hotel, New York, May 14, 15 and 16. With clearly defined lines of approach, it will take definite action on the most pressing of national matters with the view to maintaining the optimistic tone in which the industry of the country finds itself to-day.

This will be THE manufacturers' convention—a convention called for discussion of the manufacturers' problems by manufacturers and those most directly concerned in industrial policies and potentialities. Because of the multiplicity of vital economic problems, John E. Edgerton, president of the Association, has sent a forceful appeal to all members of the manufacturer's organization, urging them to meet in New York this month and personally participate in the conference. Every opportunity will be afforded the industrial leaders collectively and individually, for discussing and approving the general program, and for presenting such individual views as they believe will be of constructive value in the upbuilding of industry.

There are full and potent reasons why every member of the National Association of Manufacturers—and all manufacturers interested in the growth of the country—should take an active and effective part in the forthcoming meeting and a pride in the possibilities of accomplishment—for never in the history of the United States has there been greater demand for constructive thought and constructive action in order that the continued growth and power of this great industrial country may be conducted along the most stable and enduring lines.

Aside from the more important topics to be discussed, several innovations in convention offerings will be announced within the next two weeks. In a general way, the convention will be divided into eight distinct sessions. The delegates will gather Monday morning, May 14, and the formal opening will be at two o'clock that afternoon. Mr. Edgerton will call the meeting to order and after the appointment of the usual convention committees, there will be reports of the officers and of the standing committees on industrial relations, merchant marine, immigration, patents and trade marks and foreign trade.

Monday evening has been set apart for an industrial production session. This will be presided over by Hays H. Clemens, president of the Hays Manufacturing Company, Erie, Pa. There will be addresses by M. C.

Rorty, vice-president, American Telephone and Telegraph Company and Dr. David Friday, president, Michigan Agricultural College on "Economic need for increased production"; Acheson Smith, President, Acheson Graphite Company, Buffalo, on "How managements can be made more productive"; and by Harold C. Smith, president Illinois Tool Works, Chicago, on "How labor can be made more productive."

Tuesday morning, the Association will hear the annual address of the president, Mr. Edgerton, and following this Benjamin M. Anderson, Jr., of the Chase National Bank, will discuss "Underlying factors in the Business situation," which will be open to discussion to members from the floor.

Tuesday mid-day, at a special luncheon, the delegates will be entertained with "Some Verbal Ropin'" by Will Rogers, the inimitable, who has swung his empty lasso around so many things he now says he is able to "talk on anything under the sun." He will give the manufacturers advice on how to be successful—and their ultimate success will depend on how they take or do not take his advice.

Tuesday afternoon will be devoted to a session on "The Open Shop." S. W. Utley, Detroit Steel Casting Company, and president, Employers' Association of Detroit, will preside. There will be addressed by Mr. Edgerton and Ernest T. Trigg, president, John Lucas Company, Philadelphia, and following this there will be an open discussion.

There will be no session on Tuesday evening, as it is believed many of the delegates will welcome an opportunity to make arrangements for their own personal entertainment on one evening of the meeting.

On this evening the Association will make public the result of an extensive business and trade survey now being taken by the Association in every section of the country. These surveys made in the past, have proven remarkable barometers of business.

Wednesday morning, transportation and coal, two of the immediate problems interesting the entire country, will be discussed, Carl Gray, president of the Union Pacific Railroad taking the first subject, and John J. Cornwell, former governor of West Virginia, taking the second.

Wednesday afternoon the floor of the convention will be thrown open to all accredited delegates, in an Open Forum, for presentation of individual recommendations.

The annual banquet will be held on Wednesday evening, and the speakers for this occasion will be announced within a few days.

Mississippi Valley A World Feeder

Produces bulk of wheat, corn, iron ore and other raw materials which are accommodated by a new character of port economy at New Orleans co-ordinating rail, water and highway transportation

Written especially for AMERICAN INDUSTRIES

By **WALTER PARKER**

General Manager, New Orleans Association of Commerce

NORTH AMERICA, long the farm and the forest for the Old World, must now become the factory for the New World and the Orient, and must readjust its industrial and transportation economy.

Western Europe will continue to take North America's cotton, lumber, foodstuffs and the like, in so far as its finances will permit, but North America will desire more and more to sell the finished articles of commerce rather than raw materials, and to this end there will be an ever-increasing favoring spirit for the development of new overseas markets in those overseas regions where raw materials are to be had.

Such regions, available, exist in Mexico, Central and South America, where the overflow populations of Eur-

ope may seek homes, and in the Orient, where huge populations and a relatively undisturbed economic life permit the creation of exchangeable products.

It is from the great valleys of the country, particularly of the Mississippi and its tributaries, that the food and the raw material supply of the United States must come. Within such valleys easy grade railroads and navigable waterways may be made to supply efficient transportation at low cost.

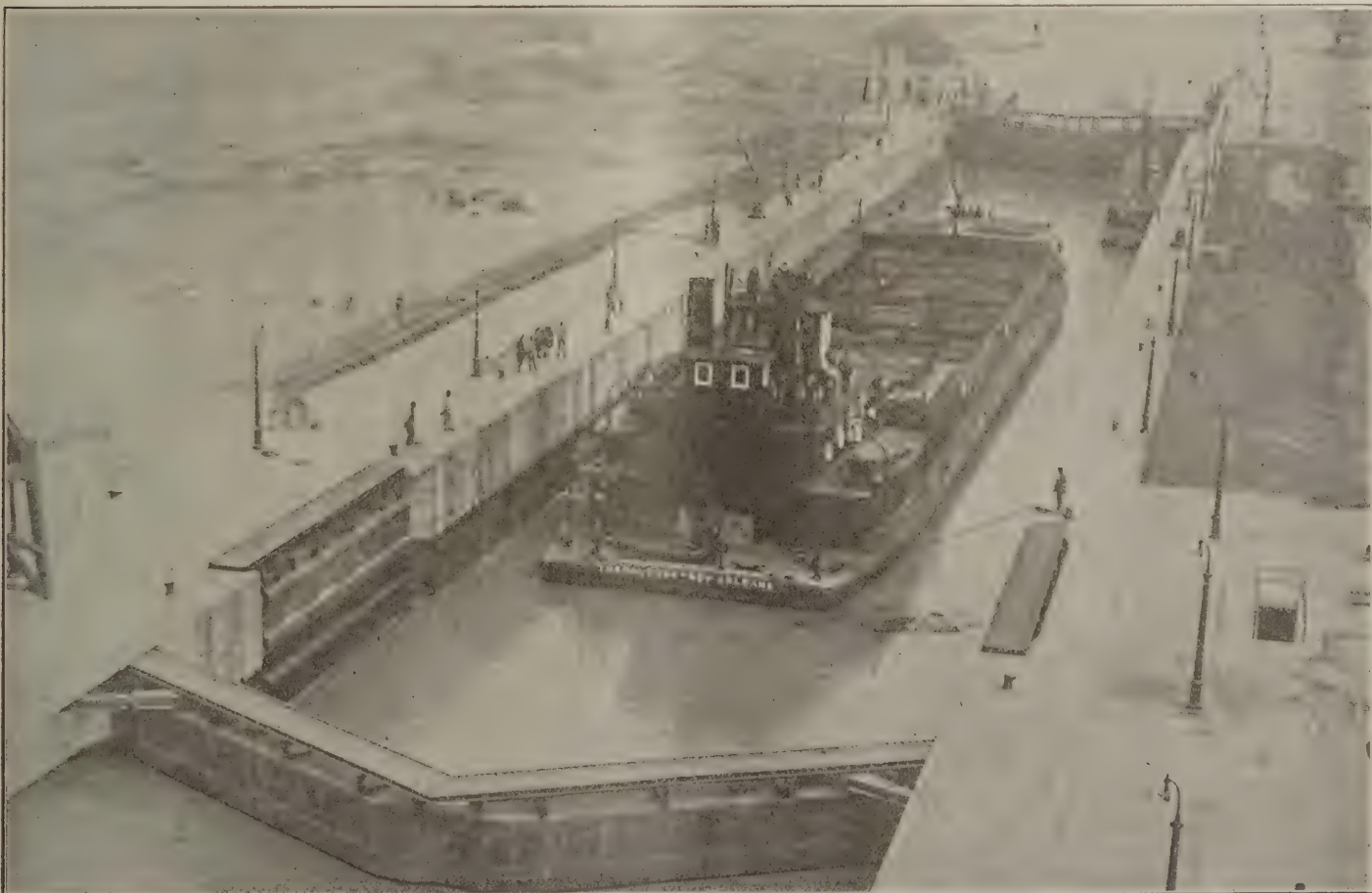
By centering the processes of industry within those valleys in close juxtaposition to food supply, raw material and the means of low cost transportation along trade channels of low natural resistance, a new and lower cost equation is created, and when such processes be carried to their logical goal, a new economic margin for business is

evolved just as surely as was done when steampower and machinery replaced hand labor.

When to these processes in the interior there be added the factor of scientifically co-ordinated port economy, the net saving to commerce and industry should prove great enough to offset, in overseas markets, lower labor cost levels in less favored regions which long have been strong competitors, of the United States, in foreign fields.

Changing world trade routes made Carthage, developed Venice, forced the Panama Canal, and now give New Orleans a world port opportunity of a new order—an opportunity to serve the Mississippi Valley efficiently and at low cost.

To capitalize that opportunity, New Orleans, with public money, has built



Great Lock in New Orleans \$20,000,000 Industrial Canal—Modern barge, capacity 2,000 tons

HAVE YOU A CONSTRUCTIVE IDEA FOR INDUSTRY?

Every manufacturer seeks to build the Nation's Industry.

If you have a suggestion for industrial betterment, bring it to the Convention of the National Association of Manufacturers, New York, May 14, 15 and 16, and present it at the Open Forum to be conducted for this express purpose.

wharves, warehouses, elevators and terminals, and, at the beginning of 1923, completed an inner ship harbor and industrial canal, at a cost of \$20,000,000. This makes possible complete coordination between transportation, factory and warehouse, and clears the way for continuing uninterrupted development under the following four-phase policy:

Public ownership of river harbor front commercial sites and facilities, available to all users on equal terms—the system long in operation.

Public ownership of Inner Harbor sites and commercial facilities thereon, subject to short term leases by business enterprise.

Public ownership of Inner Harbor sites, subject to long-term leases, and business ownership and operation of commercial facilities thereon.

Private ownership of sites on ship laterals of the Main Canal, and private ownership and unhampered use of industrial facilities thereon.

This world port opportunity of a New Order arises as a result of several major causes. The war curtailed Europe's buying power, hastened the period in which Latin-America must develop, greatly augmented the industrial capacity of the United States, increased the cost of rail transportation,

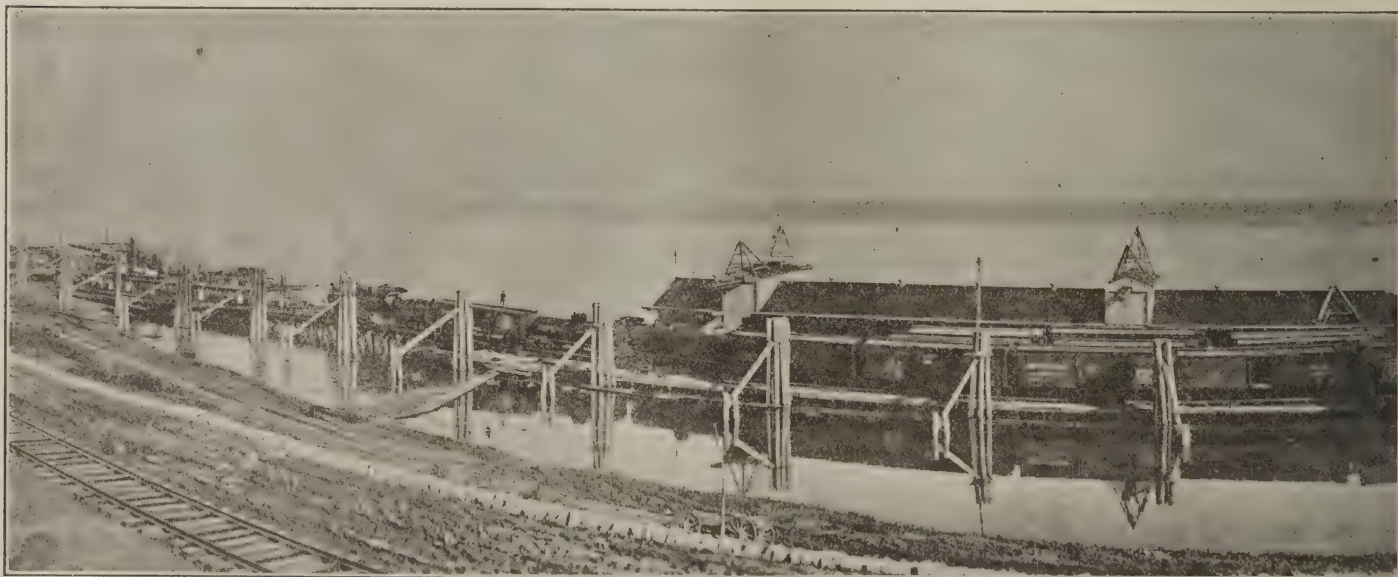
forced a return of inland water transportation, and left the world more largely dependent than before upon the Mississippi Valley, the only producing region of the first magnitude capable of fully functioning at this time. The huge debt imposed by the war upon all enterprise has forced men to reduce waste and lost motion, and to develop and use new economies. Commerce can no longer be moved over indirect routes or mountain grades, when direct routes and easy grades are available, except at an uneconomic cost, which means loss of advantage in competitive fields. The United States now needs overseas markets for the finished articles of its factories. Such markets, of great promise, now lie in Latin America, Asia and Africa, and not in Europe. Europe will continue to need raw material from North America, but, more and more, North America will manufacture its own raw material at home, and seek to sell the products of its mills abroad. Competition will be keen, keener than ever before, and so the process of translating raw material into finished products must take place within easy reach of the raw material, food supplies and low cost transportation.

Broadly, the region lying between the Appalachians, the Rockies, Canada

and the Gulf is an economic entity. It is called the Mississippi Valley. Within it are produced 80.8 per cent of all the wheat yield of Continental United States; 86.9 per cent of all the corn; 97 per cent of the iron ore; 82 per cent of the agricultural implements; 95.8 per cent of the coal; 61.6 per cent of the cotton; 52.9 per cent of the lumber; 74.8 per cent of the live stock; 97.5 per cent of the sulphur; 66.4 per cent of the salt; 70.8 per cent of the oil.

Navigable waterways radiate from New Orleans to Pittsburgh, to St. Paul and Minneapolis, to Kansas City, and soon will reach Chicago. An intra-coastal canal for barges will, in a short while, extend complete from Pensacola to Brownsville, Texas, crossing the Mississippi at New Orleans. Easy grade railroads radiate from New Orleans to Atlanta and beyond; to Chicago and St. Paul, to St. Louis, to Kansas City, Omaha and beyond.

The Valley and its transportation lines, all capable of the most effective economy of operation, form a great funnel down to the port at the mouth of the Mississippi, thence by short sea routes to the world's new markets of great promise. That port, both with far-visioned policy and carefully worked out project, has planned its facilities in such a way as to assure



Interchange Terminals for Mississippi Valley River Ports—cargo shifted direct from barges to cars

safety from congestion, and the development of a character of economy possible only where ample space permits efficient co-ordination. New Orleans has many miles of yet unused river harbor frontage, eleven miles of Inner Harbor ship frontage, and 96,000 acres of now unused and very low value lands capable of being changed into private harbors at a mere expense for dredging ship channels through it, to connect with the great now-ready ship locks on the river's bank. In this way the four-phase port policy is made possible, and the Valley is given its choice of sites and facilities.

Public ownership of harbor sites, as practiced at New Orleans, is not confined to the mere building and operation of port facilities, but embraces a complete policy under which both public and private enterprise may find free play under the most wholesome conditions. The idea is to supply, with public funds, facilities for shippers and transportation lines who are not ready to create facilities for themselves, leased sites for those who desire temporary occupancy, and an opportunity for fee simple ownership of harbor sites for those who desire to invest in facilities for permanent occupancy. The working out of this broad policy has required many years of effort. Prior to 1896, the public owned all the river harbor frontage but had not created any machinery for the practical operation of the port under public ownership.

A Board of Commissioners of the Port of New Orleans was created by law in 1896. It sold some bonds, against the revenues of the port, and built some covered wharves, then some warehouses and other facilities. Ultimately this Board was taken out of politics and given enormous powers in the Constitution of Louisiana. Its



Modern tow-boats can move equivalent of 800 twenty-ton freight cars

vision developed as its work progressed.

To-day the Board is composed of five of the strongest business men, appointed by the Governor for definite terms. This Board serves without pay, and acts as a Board of Directors. It names a general manager, who need not, at the time of his appointment, be a resident of the State, and empowers him to operate the port in the same way any other large enterprise is operated. He employs his staff, who, in turn, employ the workers. The surest way for an applicant to fail to obtain employment is for such applicant to attempt to bring political influence to bear.

Department heads are employed because of executive ability, and salaries are paid accordingly. There is nothing in the law to prevent a proper salary reward for merit and service.

The world's greatest cotton warehouse and terminal has been built on the river front by the Board. Simi-

larly, the world's most efficient grain elevator, and a splendid coal tipple and storage plant have been created. Many miles of wharves, with enclosed steel sheds over them have been built.

Now, the opening of the Inner Ship Harbor and Industrial Canal, a facility which was paid for by the people of New Orleans, with no Federal aid whatever, makes possible the leasing of harbor front sites to business enterprise, and the fee simple ownership of harbor sites on ship channels by business enterprise. Under the conditions of public ownership of the river harbor front, business enterprise can not lease sites there.

New Orleans covers an area of 196 square miles—all of Orleans Parish, or county. Much of this area has not been needed by the City, and has remained undrained and unused. This area, part of which has recently been drained, lies between the Mississippi River and Lake Pontchartrain, an arm of the Gulf of Mexico, and large portions of it are within three miles of the center of New Orleans' business district. Lake Pontchartrain is five miles from the river. Because of the rise and fall of the river, a ship lock was necessary in order to adjust the levels in the Canal and Inner Harbor, between the Gulf and the River.

The area of low value land adjacent to the Canal and Inner Harbor, which is available for development into privately owned harbor frontage through the dredging of lateral ship channels and canals, is 96,000 acres in extent. The land is low and level. There are no rocks in it. Spoil from the dredging of laterals and harbors raises the remaining land, giving it natural drainage. The value of this land as harbor frontage so greatly exceeds the



Old-time tow-boats, strong, but fuel-wasting

present value, plus the cost of changing it into harbor sites, that there should be ultimately enough profit out of the increment alone to pay off the \$20,000,000 cost of the lock and primary canal and inner harbor. At least, that is the basis upon which port economists are now working.

Because the markets of great promise now lie in Latin America, the Orient and Africa; because the bulk of the resources of raw material and food supply and low cost transportation are in the Mississippi Valley, and because of a port policy which is open and all embracing, New Orleans, on the Valley's direct trade route to the New Markets, anticipates a sharp, favorable diversion from the normal tonnage graph of commerce and industry, and has planned its development only after comprehensive study and thorough analysis to take care of this increase. It has sought all the good there is in public ownership and all the good in private ownership of facilities, and is using its great powers to so guide and influence both as to avoid the limitations of the one and the tendency toward monopolization in the case of the other.

Silt and current create a channel problem at the mouth of the River, 110 miles below New Orleans. South Pass, where the Eads Jetties is, has served as a 31-foot channel since 1879. Some years ago the Government began work on a 35-foot channel through Southwest Pass, but has not yet succeeded in getting the desired depth there.

The completion of the Inner Harbor and Industrial Canal Lock now makes possible the dredging of a ship channel of 40 or 45 feet depth direct to the Gulf through Lake Pontchartrain, which will be free from silt and currents. Such a channel would strike the Gulf many miles east of the mouth of the Mississippi. Ninety per cent of the ships coming to New Orleans approach from the East. Through such a channel, nine out of every ten ships would save possibly 24 hours' time on every voyage to and from New Orleans. The money value of such saving, it has been estimated, would equal the cost of such a channel in a period of less than three years.

By opening such a channel the Federal government would greatly facilitate the commerce of the Mississippi Valley, and ultimately save much monetary outlay. Sailing ships could then reach the main harbor of New Orleans under their own sails. The Inner Harbor lock into the river harbor would also serve the new channel to the sea, which would reduce the cost of such a

channel by half. Such a channel is a probability of the near future.

As a rule, bulk commodities are produced and made ready for market at one season of the year, and must rest in store somewhere until gradually consumed by the world. The producer needs money, and so must call upon the middle man to carry the load until consuming markets become available. It follows that the greater the cost, risk and difficulty ahead of the middleman, the greater the margin of profit and expense required by him. This means lower returns to the producer and higher prices to the consumer.

It also follows that where world-used commodities are rapidly passed into consuming markets, before required for actual consumption, they often lose relative value because they can not again be offered for sale in world markets, as would be the case were they held in store in primary supply markets until actually required in some consuming market. This is well illustrated by the case of cotton. Once cotton crosses the ocean to Liverpool it must carry the cost of ocean transportation, and it can not be resold to American or Oriental mills. But so long as such cotton remains in a primary supply market such as New Orleans, it maintains its parity and may be resold into any consuming market. In most years cotton values in winter, spring and summer reflect a greater increase over fall values than the mere carrying charges amount to.

Lost motion in handling, unnecessary drayage, high costs of labor, insurance and money, and delays which impose a burden on transportation are a factor of moment in every American port, and reduce the advantage American traders should naturally enjoy by reason of an abundance of raw material, unimpaired credit, and potentially low cost of transportation.

Port congestion, resulting from lack of proper planning, from personal greed, and from an absence of unselfish guidance and authority, has resulted in high charges in many American ports, which in turn narrow world competitive markets for American products.

Knowing these facts, and given a wide open opportunity for the testing out of schools of thought, and competitive policies, and for encouraging enterprise and business endeavor, the New Orleans port authorities have planned for to-day and to-morrow, and are in position to provide policies under which any wholesome tendency in commerce and industry may be fostered.

A market of deposit, for the products of the Valley on their way abroad, and

for the products of the world on their way to the Valley, is on the cards. The facilities for such a market of deposit embrace complete co-ordination between rail, highway and inland water and ocean transportation, storage and mill. There is provision for certificates of storage, bearing the guaranty of the sovereign state of Louisiana, showing character, class, weight and condition of commodities in store. This means low cost money. Fire-proof waterside warehouses mean low cost insurance. Co-ordination means low cost handling.

Such warehouses may be built on leased harbor frontage by warehousemen, or built by the Port authorities and leased to warehousemen, or be both owned and operated by the public, through the Port Board, as the case may require. A municipally owned and operated Belt Railway system co-ordinates all rail lines entering the city, all wharves and warehouses, and all factory sites. Through privately owned harbors and harbor sites on ship laterals of the Inner Harbor, industry, using either the raw products of the Valley or of foreign fields, and co-ordinated with all port facilities and transportation by publicly owned belt railroad and by lighter, may, singly or in combination, develop and employ economies of a very rare character.

Before port development plans on such a scale and so complete in policy could be made effective, New Orleans had to do many important things. It had to devise a sewerage and drainage system for a region devoid of natural grades. This it did, in the case of sewerage, through the installation of underground automatic electric pumps which created pipe line grades between each station. In the case of drainage, a new type of low lift high capacity pump, many of them 10 feet in diameter, had to be designed for this work.

With a mighty, but muddy river passing its front door, New Orleans had relied on a rain water supply for domestic use. Wells would not do, because they yield salt water only. A real water supply was required, and so a monster filtration plant, depending primarily upon coagulation and precipitation was built which now delivers a filtered pure water supply so cheaply that it is freely used to wash the streets and put out fires.

Then there was the old yellow fever problem. This problem was solved through mosquito elimination. 250,000 surface cisterns were destroyed by law. These cisterns afforded the only great breeding place for the particular mosquito which can transmit the poison from one suffered to another. The fever does not originate in any portion

of the United States. It is not contagious. With no *stegomyia fasciata* mosquito to transmit it, there can be no transmission. And so yellow fever, if brought into the port, can not now become epidemic.

The same is true of Bubonic Plague. This is a rat disease, and is transmitted through the rat flea to the human when the rat dies. To make Bubonic plague impossible in New Orleans, every residence, building, wharf, warehouse and terminal has been rat-proofed. More than two million rats have been trapped, and millions more have been poisoned. The saving in goods alone, not destroyed by rats, justifies the cost of rat proofing, aside from its value as a health measure. With safety from yellow fever and Bubonic plague, New Orleans, a semi-tropical port, need maintain no more stringent health regulations against other ports than are required by the ports in the colder climate far to the northward. This means open commercial movement.

Prior to 1846 boats on the Mississippi, Ohio and other rivers enjoyed a monopoly of Mississippi Valley commerce, and none destined for a sea port could escape New Orleans. The boat owners, never fearing competition from artificial transportation, fought among themselves, but no terminals, through bills of lading, or truly economical methods were developed. They wasted steam, gave over space they needed for freight to promenade decks, and relied on the muscles of men to do work machinery should have done. Their patrons welcomed the railroads as a relief from an arbitrary monopoly which had never made effective the basic economy of water transportation. The valley was developing, resources were abundant and the residents were wasteful in many ways.

And so, the railroads, building out fan-like from the North Atlantic ports tapped the valley at many points. The public was agreeable, and the boat lines fell fairly easy victims. Midnight tariffs, and sometimes unfair competition finished the job. Railroad exploiters of those days did not believe there would ever be commerce enough for rails and boats, too. Any-

way, the valley's foreign markets were then almost solely in Western Europe, which is nearer New York than New Orleans. Finally, the Civil War permitted a situation to develop which fostered the North Atlantic ports and retarded New Orleans. Out of it all came rate structures, laws and other factors which stood as a barrier to private enterprise whenever it attempted to redevelop inland water transportation.

At the request of the people of the Mississippi, Ohio, Missouri and other great valleys, the federal government created a barge line service between New Orleans and St. Louis on the Mississippi, and between New Orleans, Mobile and Birmingham on the Warrior river. There was a double purpose. First, to augment rail transportation. Next to wipe out, by actual service, handicaps on inland waterway use which had developed through long non-use. The idea was and is for the Government to complete a practical demonstration of the feasibility and economy of inland water transportation, and then sell out its equipment to business enterprise.

The demonstration thus far has proven successful, more freight is being offered than the barge line can carry, and on every pound of freight moved the shipper saves a very material percentage of the normal rail rate. This saving applies through joint rail and water rates between inland towns and ports, as well as between ports.

With the completion of the lock and dam system on the Ohio, the channel improvement projects on the upper Mississippi and Missouri rivers, and the Lakes-to-the-Gulf channel from Chicago, the former largely completed and the latter fully provided for, there will be water interchange between Minneapolis, Chicago, Kansas City, Pittsburgh, St. Louis, New Orleans, Pensacola, Birmingham, Mobile, Galveston, Houston and Brownsville, Texas, the last four being on the now nearly completed intercoastal canal. New Orleans is the main junction point of this waterway system.

The world's largest sulphur deposits are on the Intercoastal Canal. So are

the world's largest salt mines.

The Mesaba iron mines are about as near Minneapolis on the Mississippi as they are to Duluth on Lake Superior.

Pittsburgh's coal and iron supply is on the Ohio and its navigable tributaries.

Similarly, Alabama's iron and coal are on the Warrior, which is a part of the system, as is also much of Alabama's limestone.

The wheat of the Upper Valley, and the cotton of the Lower Valley are now finding their way to ship side over joint rail and water routes at material saving in transportation costs, and these savings should increase.

Louisiana's sugar, molasses and rice, and Brazil's coffee are being moved up the river on barges at low rates.

Nicaragua's mahogany is moving along the same route, while agricultural implements, automobile and many other export products are coming down.

Early in 1923 a great fleet of tow boats loaded with export steel for the Orient arrived at New Orleans from Pittsburgh. It was the first of a series.

The facts all appeal strongly to the economist and to the industrial and transportation engineers, and, more or less to their surprise, the people of New Orleans are now hearing much about plans and projects for basic steel industries on their just completed inner harbor; about projected lumber and timber harbors which contemplate a trade in Central and South American hardwood, and hardwoods and pine from the Southern States; wood-working plants, and waste material for paper pulp, the chlorine to be available from a planned chemical harbor nearby. This chemical harbor project has received a great deal of attention. Oil, sulphur, gas, salt are available from nearby sources of abundant supply. There are cotton, coal tar products, limestone, gypsum near, in addition to foreign chemicals. Plans for these great basic enterprises include coördination each with the other, and the maximum use of waste material.

SOME VERBAL ROPIN' FOR MANUFACTURERS

Will Rogers, the inimitable, will entertain the members of the National Association of Manufacturers, with some of his characteristic criticisms, constructive and otherwise, at a luncheon on Tuesday, May 15, during the Annual Convention.

Reserve your seats early.

Minimum Wage Law Held Void

Supreme Court declares pay cannot be determined by law—decision throws into the discard, by implication, similar laws passed by other large industrial states in various parts of the country

WAGES cannot be fixed by law, the Supreme Court, dividing five to three, held in a case brought to test the constitutionality of an act of Congress fixing minimum wages for women and minor girls in the District of Columbia.

The decision was delivered by Justice Sutherland, Justices McKenna, Van Devanter, McReynolds and Butler joining with him. Chief Justice Taft delivered a dissenting opinion for himself and Justice Sanford, while Justice Holmes read a dissenting opinion which followed in its main features that of Chief Justice Taft. Justice Brandeis did not participate in the decision.

Counsel engaged in the case declared that the decision is likely to render invalid the minimum wage laws passed by the Legislatures of several states.

Among the states whose legislation is involved are New York, California, Kansas, Oregon, Wisconsin and Washington. Legal experts, after reading the recent decisions, declared that the ruling in the District of Columbia proceeding, by implication, throws into the discard similar laws passed by states, affecting both men and women.

The majority of the court based its position broadly upon the right of contract, insisting that while laws could be enforced to regulate working conditions, the employer and the employe must be free of restraint in determining between themselves what wages are acceptable.

The minority contended that there was no greater police power in Congress and the state legislature to regulate working conditions than to regulate wages and that as there had been wide uniformity in holding that working conditions could be prescribed by law-making bodies it followed in their judgment that wages were also a proper subject for legislation.

Justice Sutherland pointed out that the minimum wage law was attacked upon the ground that it authorizes an unconstitutional interference with the freedom of contract included within the guarantees of the due process clause of the fifth amendment.

The right to contract "about one's affairs," he stated, "is a part of the liberty of the individual protected by this clause." The fact, he asserted

was settled by the decisions of this court and is no longer open to question.

"It is based wholly," the opinion added, "on the opinion of the members of the board and their advisers—perhaps an average of their opinions, if they do not precisely agree—as to what will be necessary to provide a living for a woman, keep her in health and preserve her morals."

Justice Sutherland said he was not willing to concede that the wages a woman received had any direct bearing upon her morals.

Pointing out that some states had minimum wage laws while many more did not, Justice Sutherland insisted that "the power to fix minimum wages

carried with it, if lawful, the power to fix maximum wages."

The arguments presented in the dissenting opinions were directed to establish that there was a parallel between wages and working conditions which required the court to sustain legislation fixing the former on the same exercise of police power which had been held to be sufficient to warrant legislative control over the latter.

Chief Justice Taft and Justice Holmes analyzed former opinions of the court bearing on the power of legislatures to regulate private contracts, reaching the conclusion that there was ample precedent for holding the law constitutional.

Tiring Out The Metals

TO determine how long it takes to "tire" a metal to the point where it gives way under repeated strains or shocks the Engineering Foundation in collaboration with the National Research Council, the Copper and Brass Research Association, the University of Illinois, the General Electric Company, Western Electric Company and other corporations, has undertaken a comprehensive program of research to establish the endurance limits or so-called "fatigue" of copper, brass, bronze, and other metals.

Everybody has used the simple process of breaking a piece of wire, perhaps a hairpin, by bending it back and forth until it snapped, and has found that some wire has to be bent longer than others. The breaking of the wire was the result of "fatigue"; when the wire snapped it had reached its endurance limit.

This is a simple example of fatigue failure, a subject which assumes great importance in the operation of machinery, in which such objects as shaftings, axles, springs, bolts, rods, ties and structural parts made of metal are subjected to repeated loads shocks and stresses.

Fatigue characteristics depend on the composition of the metal or alloy, the heat treatment to which it is subjected in manufacture, the structure

of the metal, impurities present, even the shape of the object. It will thus be seen that the variety of conditions where fatigue is a factor is almost endless.

Engineering science has an almost inexhaustible fund of fact with regard to the other physical properties of the metals, including tensile strength compressive strength, ductility and hardness. There exists, however, this gap in regard to fatigue. The recognition of its vast importance is in line with the great engineering progress of the times.

A fatigue failure of metal is apt to occur suddenly. The metal snaps as though it were brittle, and in many cases at the point of fracture appears to have become crystalline. This crystalline appearance led to the old theory that under repeated stress metal crystallized, but this theory is now known to be unfounded. As a matter of fact, under the microscope all metals used for structures and machinery appear crystalline. Stresses produce no apparent change in the general structure of the metal, but repeated stresses seem to produce a gradual breaking down of the crystalline structure.

To accurately determine the facts which govern the strength of the many metals and alloys employed under

(Continued on page 19)

Simplification Is Saving Millions

Effort of the Department of Commerce to eliminate waste in manufacturing is already showing magnificent results and promises to reach into almost every phase of our national economic problems

Written especially for AMERICAN INDUSTRIES

By RAY M. HUDSON

Division of Simplified Practice, Department of Commerce

RISING prices and shortage of material, high wages and shortage of labor, high freight rates and shortage of cars—a "tough bunch" of problems to solve. And solve them we must, for on their successful solution depends our further industrial peace and prosperity. Barely two years ago, our industries were flat on their backs gasping for breath—look at 'em now! Up and going? Yes, and going strong! But where? Well, if current conditions are any indication, right back to where they were in May, 1921.

The National Bank of Commerce review for March said:

"With stable prices and wages, there would be every reason to have faith in an indefinite continuance of business activity at present levels. But prices of important commodities and groups of commodities are rising and they are rising rapidly. Wages show a similar tendency.

"In this situation, it is pertinent to inquire as to exactly what is the significance of the frequent statements to the effect that further business expansion is to be anticipated. Unless there is available not only plant capacity, but men to do the work, higher prices cannot result in an increased physical volume of goods. They merely represent bidding in an effort to secure the supplies already available. Rising prices under these conditions do not indicate business expansion. They are certain to have as their aftermath curtailed purchasing by domestic consumers and lessened exports as a result of a domestic price level above that prevailing in other countries."

The *Financial Age* for March 17th said, "The sharp rise in basic commodities during the last few weeks has placed the price structure on a basis which calls for careful watching and close scrutiny to see that an excessive and highly inflated average level is not established."

Secretary Hoover, in his letter of March 19th to President Harding urging the curtailment of government construction activities, pointed to the rapidly increasing industrial congestion, and its probable consequences.

We do not lack for warning that back of the current situation looms the specter of another "buyers' strike." There is no doubt that if things continue their present course, this ghost of Old Man Depression will appear in our midst, with all the consternation and confusion that marks his coming. The big question is not what will we do with him when he gets here—but what can we do to ward off his approach. One logical step would be to cut down the production of superfluous and excessive varieties in sizes and dimensions of commonly used commodities, i. e., adopt Simplified Practice.

Commenting on causes of waste in our industries, Secretary Hoover said, "It is certain that there are a great many articles of every day use in which

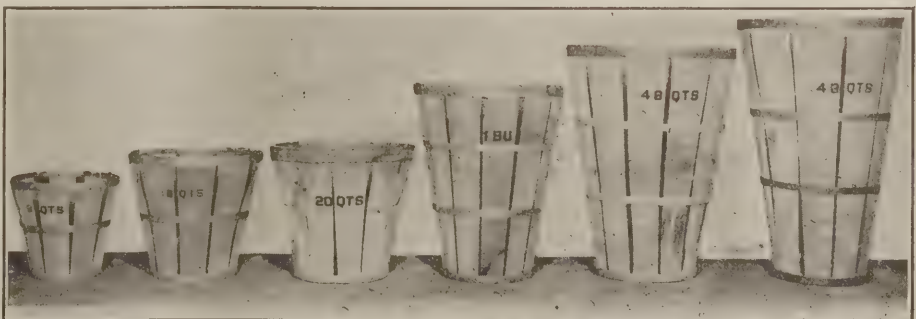
the manufacturer would indeed be glad to undertake some coöperation in standardization, from which the saving in national effort would be interpreted not into millions but into billions of dollars. This does not mean we stamp the individuality out of manufacture, or invention, or decoration, it means basic sizes to common and every day things."

Standardization, however, is an overworked word. Unfortunately, it has come to have a connotation that implies the fixation of everything from products to processes at their present stages of development and thereby stopping all further research, invention, science and progress. Standardization, per se, is not static—it is dynamic.

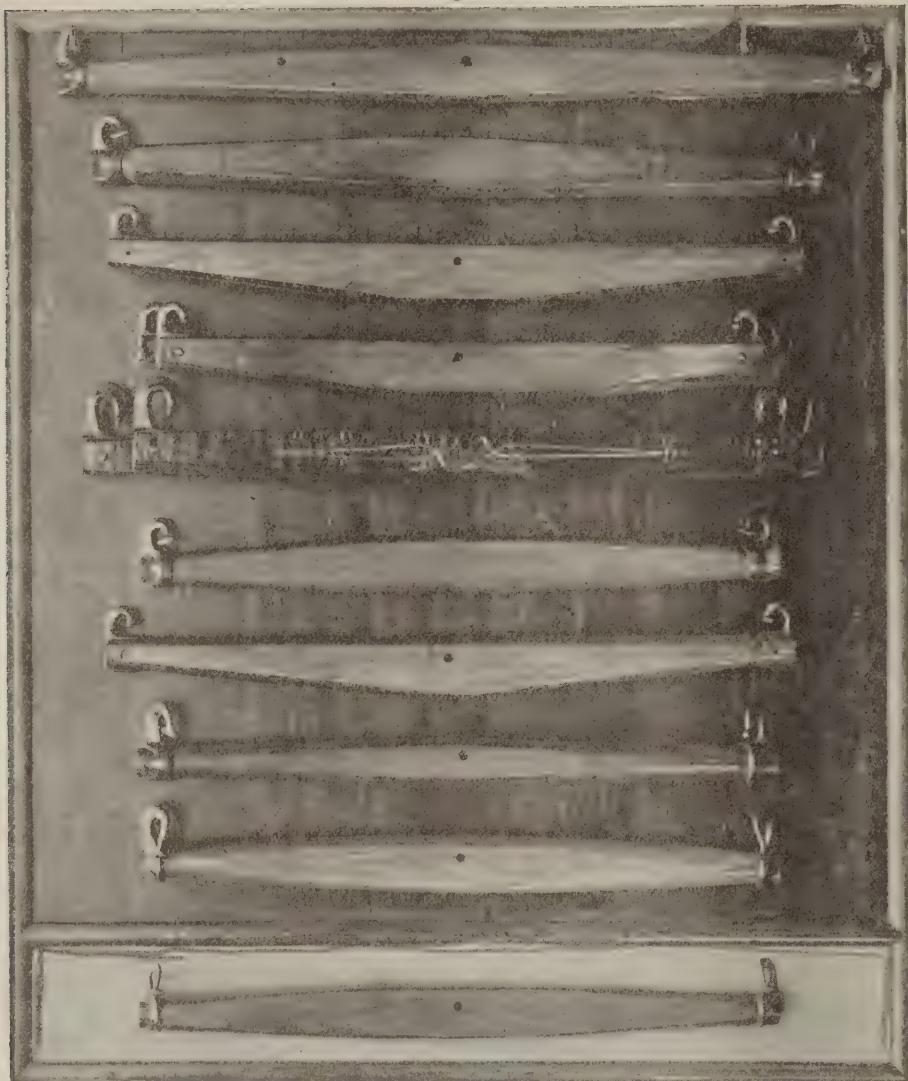
It is the continuous process of crystallizing the best thought and practice



Confusing sizes of containers before simplification



Standard sizes which help the customer in buying



Single-trees reduced from ten styles to one

of the industry or the art, and coincidentally eliminating that of proven lesser quality, utility, or value as uneconomic, wasteful, and destructive. Standardization is the logical outgrowth of constructive effort, it is the measure of progress, and the incentive for further advance. For no sooner has any one thing reached a certain degree of attainment or perfection than effort is concentrated in, and applied to, the problems of refining, improving, and developing that thing to higher limits of performance, utility, and satisfaction.

Standardization may begin at any point in the circle of commerce. In some cases, efforts have been successfully directed at some specific feature of the article, or phase of the process, under consideration without regard to the other existing variants. In other cases, the primary effort has centered on the elimination of superfluous and unnecessary existing varieties in a common field of endeavor to the end that all such extraneous matters may be disposed of preparatory to intensive con-

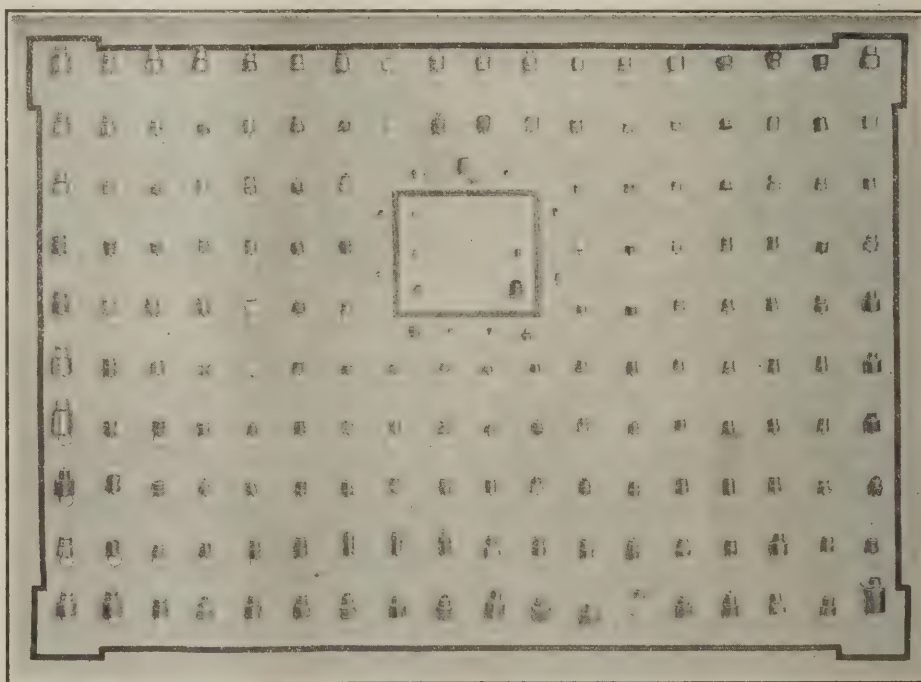
centration on the varieties remaining. No matter which course is first chosen,

the ultimate result is the same, for just as proven and demonstrable refinement causes the elimination of the unfit—so does such elimination induce improvement and advance in those that survive.

As to the relative economy in the two approaches, perhaps the elimination of the superfluous and non-essential is more logically the primary process. At least that approach offers the best promise of early return in the effort made—whereas standardization—being at best a rather slow process of eradication, involves a much longer time interval before its benefits will be apparent. This primary process, this shorter and easier way to economic stability, and consequent prosperity—is called “Simplification,” meaning to reduce, to eliminate, to cut-out, or to simplify.

Simplification is now being widely adopted not only as a fundamental business policy by numerous individual plants or enterprises, but also by many entire industries through the coöperation, made possible by trade associations among their members. When, under Mr. Hoover, the Committee on the Elimination of Waste in Industry completed its survey in six major industries of the country—that group of 18 leading industrial engineers reported an average waste in these fields of human endeavor, amounting to 40 per cent, and backed their survey by a most adequate array of facts.

American industry, which had come to regard itself as rather highly efficient was severely shocked, and properly so. The report demonstrated that much of the effort in the past had been applied to material improvement, and



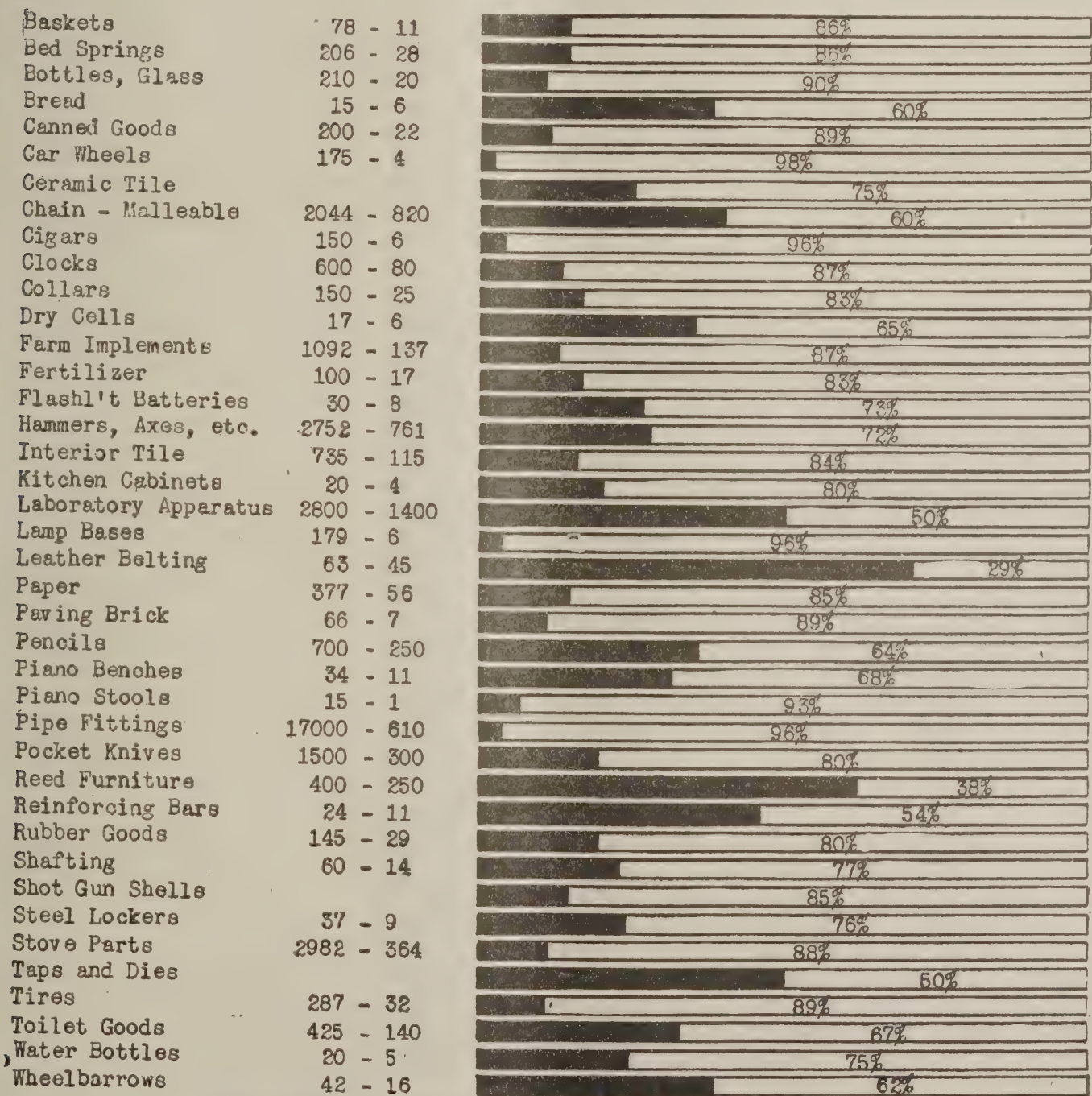
Electric lamp bases reduced to six sizes

mechanistic refinement, and that opportunities for relatively greater advance through better management, more scientific adjustment of personnel relations, accident prevention, health maintenance, standardization, and simplification were being only casually considered, if not completely ignored, in many cases. For example, it was pointed out that the standardization of newspaper columns to one size would make possible an annual saving of \$3,000,000 to \$5,000,000 on composition and plates alone and that standardization of the thickness of certain walls might mean a saving of some \$600 in the cost of the average house. The establishment of correct standards for a fair day's work in many of the building trades

would make possible the adoption of methods of payment which would bring higher wages to the workers, while at the same time lowering costs to the contractors, and also lessening the cost of construction for the owner or builder. In the men's ready-made clothing industry, it was shown that the second fundamental cause of waste attributable to management was the lack of standardization of appliances, conditions, work-content of operations, and methods.

Referring again to the printing industry, as illustrative of what may be accomplished in standardization of equipment, there is the standardization of type bodies. Prior to the year 1885, each type foundry cast its type on a

more or less different body, and although the exchange from the old system to the "point" system involved an expenditure of some \$3,000,000 by the type foundries, it is universally conceded that this expenditure has been saved many times over. As a consequence of these, and similar findings in this one industry, seven national trade organizations representing 95 per cent of the consumers of paper, and over 11,000 of the leading firms in their lines, including printers, stationers, lithographers, engravers, advertisers and purchasing agents, have passed resolutions calling attention to the waste in industry, and urging coöperation in eliminating unnecessary grades, weights and sizes, and reducing the number of



Typical reductions, accomplished by organized trade effort and individual corporations

colors, finishes, water-marks, etc.

Managers everywhere are urged to apply standardization as an effective means to eliminate waste. Products should be standardized consistent with the progressive development of manufacturing. Materials should be standardized to the fewest practicable kinds, sizes, and grades. The details of equipment, including machines and tools, should be standardized so as to permit the widest interchangeability, and maximum usefulness, consistent with improvements in design and invention.

Performance standards should be developed as a valuable aid to production planning and control. By constantly comparing actual performance with the standards, and promptly investigating the causes of departure from standard, the manufacturer can quickly detect adverse conditions as they creep in, and can rectify them. Performance standards, in fact, will enable him to plan the size of his plant, and operating force for a given volume of business for continuous operation. In the last analysis such standards are the basis for settling the age-old question of "a fair day's work for a fair day's pay." Obviously, performance standards cannot be intelligently nor

accurately set until the conditions under which the service to be rendered have been standardized. That means standardization of appliances, conditions, operations, and methods prior to performance measurement and rating.

Manufacturers may well be interested in the benefits of standardization, or "Simplified Practice," which term is more truly expressive of its purpose, for while manufacturers are primarily concerned with production, continuous operation of their plants rests on adequate distribution, and steady consumption. Simplification, once started in any line, reaches into all three fields, and with its progressive application brings numerous benefits that can be measured in dollars and cents. Suppose a manufacturer now making a large variety of products in a wide range of models and sizes, makes careful analysis of his annual sales. He may find as others have found that 90 per cent of those sales have come from 10 per cent of his lines, and that the other 90 per cent of his products furnished only 10 per cent of his gross business. Suppose then he decides to eliminate the 90 per cent of varieties carried for service or competition's sake, and concentrate on the 10 per

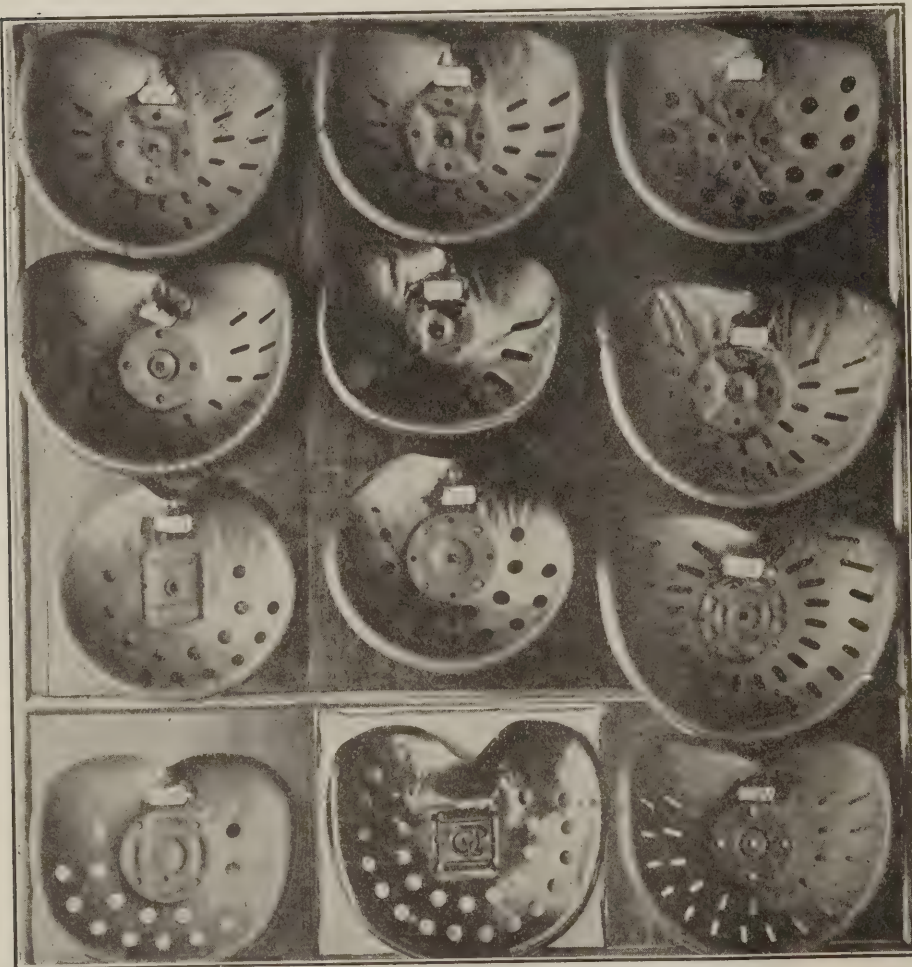
cent that gives him the most business. What will he gain?

First. More economical manufacture. Because of the reduced number of manufacturing units, he can establish larger units of production, which mean longer runs, and less frequent change. Higher rates of individual production, and less idle equipment result from the larger quantity of work banked against his machines. This larger machine burden means more effective stock control, which requires more accurate planning and estimating of production requirements and thus leads into better control of purchasing, with greater ease in securing raw materials. Better and more simplified inspection becomes possible, as does improved material handling. Clerical overhead is reduced, and supervision is more intense or concentrated. In brief, all the advantages of mass production methods become increasingly available the further simplified practice is extended.

Second. There is, for a given volume of output, a reduction in capital usually tied up in raw materials, semi-finished stock, and finished products, as well as in the jigs, dies, templates and special machinery required for variety production. The stock of repair parts for equipment is decreased, and storage space for stocks of all kinds is proportionately lessened. Consequently, it becomes possible for the manufacturer to turn around on a smaller working capital.

Third. Labor becomes more efficient. Training of new employees is simplified, and in these days of labor shortage, and the necessity of making skilled mechanics out of relatively inexperienced men, this is an important advantage. The longer runs, and the higher individual production means better earnings, steadier work, and happier and more contented workmen. Seasonal employment is reduced, and fewer factory shut-downs occur.

Fourth. Service to the trade is improved. Not only does more prompt delivery become possible, but an improved quality of product results, one might say, almost automatically, when simplification is applied. These react to increase sales momentum and thus is volume increased, turn over accelerated, and greater profit insured. Distributors find their problems lessened when the manufacturer undertakes such a program, and are usually very enthusiastic. Simplification means to them carrying in their stocks only those items that are proven fast-sellers, and concentration of selling efforts on goods that bring volume business. Turnover is quickened, costs of doing business go down, and other savings and economies



Seats reduced from twelve styles to the single one at bottom center.

aid effectively in lowering the cost of distribution.

Consumers are likewise interested, for, by the continual education they are undergoing by modern advertising methods, the ultimate buyer's sense of values is steadily developing. He is coming more and more to insist on quality at a fair price.

The rapid spread of simplification throughout our industries indicates the era of detailed variation for individuality's sake is passing. The attention to individuality is being applied more and more to those features wherein it should exist, and less to the features wherein standardization and quality should prevail.

Several groups are taking active part in this Hoover program for eliminating waste. The American Engineering Standards Committee and its cooperating bodies are doing similar work of a more advanced or technical nature in those fields where engineering phases or problems must be considered.

Secretary Hoover has organized the Division of Simplified Practice in the Department of Commerce to serve as a centralizing agency in bringing producers, distributors, and users together, and to support the recommendations of these interests when they shall mutually agree upon simplifications of benefit to all concerned. Nearly a hundred different trade associations are utilizing the services of the Division in carrying on their simplified practice program.

To date, paving bricks have been reduced from 66 to 7 sizes. Wood beds and metal beds now have one common length, with four standard widths for the former and two for the latter. The manufacturers of springs and mattresses favored this action, and now their products are being made in sizes to conform to the simplified line of beds. Metal lath varieties have been reduced from 80 to 12, and several other simplifications are in process of completion.

These lines include—

Lumber, bed blankets, milk bottles and caps, paint, oil and varnish; containers of all kinds, automobile parts and accessories, shipbuilding supplies, construction materials, contractors'

equipment, oil well supplies and equipment and many others.

Simplified Practice is essentially a conservation measure, since it aims to reduce the present, largely avoidable, waste in material, labor, time, and money. It is not, however, a panacea for all the economic ills that beset an industry, a state, or a nation. But it does offer an approach toward the realization of those results which in themselves are essential to the successful stabilization of business. With high costs of production, distribution, and consumption or living, crowding us on every side, there exists a grave necessity for the utmost coöperation among all interests from producer to consumer, between business and government, to promote economy in manufacture, distribution, and use of the necessities

as well as the luxuries of life. Our material supplies should not be consumed in the fabrication of wasteful or slow-moving lines, neither should our relatively limited labor resources be applied to the production and sale of such articles or commodities. Nor should our already congested transportation facilities be further clogged by the movement of such goods. We need to make greater and more intelligent use of existing facilities and resources toward supplying the most common human wants. By so concentrating our effort, we can release a large amount of human thought and energy toward the development of new arts and sciences, social betterments, and the improvement of standards generally.

We can begin by adopting simplified practice.

Tiring Out The Metals

(Continued from page 14)

widely varying conditions of service is a huge task, calling for exhaustive research, as will be apparent from the fact that in some metals it becomes necessary to carry the repetitions of stress beyond one hundred million reversals (bend the hairpin back and forth, if you will) before the actual endurance limit can be satisfactorily established.

For three-quarters of a century the need for accurate information on this subject has been apparent, but the costly character of the undertaking was long a deterrent. Finally, during the World War the question of strength of aeroplane parts under repeated stress became of such prime importance that a full investigation of the endurance limits of commercial steels was begun.

It is now planned to carry forward for the first time a comprehensive research into the endurance limits of copper, brass, bronze and other non-ferrous metals and alloys. The Copper and Brass Research Association will be represented in this undertaking by Captain Harry George, Metallurgist, Chase Metal Works; W. R. Webster, Vice-President, Bridgeport Brass Company, and William B. Price,

Chief Chemist and Metallurgist of the Scovill Manufacturing Company.

The work will be supervised by an advisory committee of specialists connected with the National Research Council. Dr. H. F. Moore, Professor of Engineering Materials, Materials Testing Laboratory of the University of Illinois, will be in immediate charge of the experiments, which will be conducted at Urbana, Ill. The Engineering Foundation, of which Alfred D. Flinn is director, has provided special equipment and funds.

AUSTRIA'S STEEL INDUSTRY

An improvement in the position of Austria's iron and steel industry, particularly in the rolling mill branch, has been brought about by increased orders from Germany. It is stated that present orders are sufficient to keep the industry operating at reduced capacity for ten weeks. Should they continue it is probable that the Alpine Montangesellschaft will resume operation in the Zoltweg plant which has been closed down for some time. Some difficulty is caused in sales to German buyers by their demands for price quotations in English pounds, forcing Austrian sellers to assume exchange risks.

BE A CONVENTION SPECIALIST

May is a month of conventions. You cannot attend all of them.

Select the one that will be of the greatest value to you—the convention of the National Association of Manufacturers, because the organization's efforts are directed toward solving those problems that most vitally affect the manufacturer.

Waldorf-Astoria Hotel, New York City, May 14, 15 and 16.

High Rents And High Bricklaying

With a great shortage of labor in the New York metropolitan district and men demanding \$12 to \$25 a day, the much-harassed apartment dweller finds little hope for any real housing relief

CONTINUALLY the much-harassed apartment-lessee complains of the high rentals. For some months he has been led to believe that the approaching building season would see a lessening of the wage restrictions with consequent reduction in housing costs.

But what is happening Here and there we see a slight reduction in the rentals of apartments in remodelled houses; but the rate seems to remain about the same for new apartments, with little promise of a material change. And why? Here is an indication:

Journeymen bricklayers in the New York metropolitan district are receiving for the first time in their lives—perhaps they are earning—anywhere from \$12 to \$25 for a day's work of eight hours. And they are picking and choosing their jobs with as nice discrimination as madam employs in selecting the layette for her first baby.

Over in the Newark district of New Jersey, some of the painters have decided that they will not work in July and August, the hot months; which means that if a person needs a painter very badly he must pay double or triple. And the paperhangers are demanding as much as \$33 a room to do the work, above the cost of the paper itself.

The shortage of bricklayers in the New York district is just as acute this spring as the fuel situation was during the winter. Normally, about 7,000 bricklayers work at that trade in the metropolitan district. But what is the demand? An interesting canvass has just been made of the situation by the New York *Herald*, which shows, that at the present moment between 9,000 and 10,000 bricklayers are needed for the jobs that are in hand; and the indications are that this situation will grow progressively worse as the busy season gets into full swing.

Such conclusions are established by talks with many large contracting and building firms and with the highest authorities of such organizations as the Building Trades Employers' Association and the Mason Builders' Association. The supply is about 35 per cent short of the demand. Many builders, though unwilling to be quoted by name, expressed the fear that by June 1 the ratio of shortage

may be vastly increased.

All agreed that the present alarming inadequacy of labor, skilled and unskilled, in the building industries, but particularly in the mortar trades such as those of the bricklayer and the stone mason, is unprecedented. It is far more acute than last year. Contractors and builders confess themselves appalled when they contemplate what conditions may be in another month or two when the building boom, under the spur of spring sunshine, shall have hit its full stride.

Already, frantically eager to get their structures under roof so they may draw more freely upon their building loans, they are running about here and there in the scant labor market, bidding against one another, seeking to win the thrifty bricklayer and the laborer by dangling before him the lure of a wage plethorically swollen either by an out and out bonus or by guaranty of double pay overtime.

In other words, the "runaway labor market" in the building industry, the demoralizing effects of which conservative members of the Building Trades Employers Association have been dreading worse than they dreaded empty coal bins through a cruel winter, is confronting them with all its terrors. And there seems to be no spring tonic to cure it.

If you think the picture overdrawn glance on any Sunday or Monday at the "Help Wanted—Males" columns of metropolitan dailies that specialize in that class of advertising. You will find scores—nay, hundreds—of appeals for bricklayers. They are wanted in blocks of ten, twenty or fifty for building operations already under way in every city borough, but notably in Brooklyn and Queens.

You will find the distraught contractors petting and coddling the layer of bricks as the boys court a debutante at her coming-out party. You will note that, though the present union wage scale is \$10 for an eight-hour day they are flaunting in the advertising columns their competitive bids in terms of steady employment at \$12, \$13, \$14 and \$15 a day.

This is something new in industrial economics. One contractor struggling to make good, for instance, on a big job in a suburban borough, advertises that the operation is "conveniently lo-

cated at Station — on the subway extension." Another who offers \$14 a day (and no questions asked) has a structure under way at Arverne. "Come ready to work" is his plaintive plea. A third who is hungry for from twelve to fifteen brick and mortar virtuosos at Boston road and 173rd street, guarantees them "a one year job at \$12 a day."

Brick specialists, like other temperamental artists, prefer a long engagement to the "small time" one, the major to the bush league. The advertisements bristle with overtures of long jobs and "big jobs." Klein Bros., for instance, proffer \$14 a day "on a big job" at Ocean Parkway and Cortelyou road.

Employers for the most part told their troubles freely enough, but often they told them under pledge of anonymity. This is the time of year when employers' organizations are negotiating with the trades unions the wage scales for the coming twelve months. Relations between them are abnormally delicate. Over in the fashionable section of the East Side one of the big Manhattan construction corporations has under way a great apartment house. This is the plain, unvarnished tale told by that concern's construction superintendent:

"I had a stretch of wall to be built which was a key piece in the sense that delay in its completion would hold up the whole job. It was not an extensive piece, but it was a vital one and speed was imperative. Like everybody else we were short of bricklayers. I sent out a foreman in a taxicab yesterday with instructions to get five bricklayers regardless of cost and bring them in with him, ready to go to work.

"In the course of the afternoon he came back with three in the taxi and I put them on the job. Later in the day two more drifted in with their tools, coming afoot. I am paying three of those bricklayers \$25 a day each for ten hours work. Of the other two one is getting \$15 for an eight hour day and the other \$12.

"I don't defend this sort of thing," he added with a grin, "except as the Germans excused their invasion of Belgium: 'It was a necessity of war and necessity knows no law.' Of course, this was a special price for a
(Continued on page 28.)

What Women Think Of Open Shop

Contributed to by leaders in various industrial, political and patriotic movements, whose interesting expressions represent their own individual viewpoints rather than of organizations

"A *AMERICAN INDUSTRIES*" welcomes the opportunity to present to its readers in this issue, the views of representative American women in different sections of the country and with varying claims to recognition on the subject of the open shop.

The constantly increasing influence of women not only in politics but in industry, makes their opinions upon industrial matters of real importance. As a factor in the moulding of public opinion and its functioning, women will be more and more prominent.

Those who were asked to contribute to this symposium were assured that their statements would be published just as received, regardless of whether or not they favored the open shop.

The contributions give evidence of careful preparation, and discuss the subject from a variety of angles. They must be considered, however, to represent only the personal views of the contributors and not the official word of the organizations with which the writers are connected.

Is In Keeping With American Ideals

Written especially for AMERICAN INDUSTRIES

By **MARGARET C. ROBINSON**

President Massachusetts Public Interests League

I AM in favor of the open shop because the principle behind it is in keeping with the ideal of freedom upon which our government was founded. Americans have so long enjoyed so great a degree of liberty that they take it for granted, like the air they breathe, and in consequence are ceasing to appreciate it at its true worth.

The tendency of thought and political action to-day is strongly toward compulsion, and away from individual freedom. This is largely due to the spread of Socialist theories. The shrinkage of liberty under state socialism is tremendous.

In Russia under the present Socialist experiment, the working man has few more rights than a slave. The hours he shall work, where he shall work, what shall become of his children, etc.



Mrs. Robinson

are, in the cities, matters over which he has no control.

In this country the movement to destroy the rights of the states, and to put the control of education, maternity, child labor, etc., into the hands of the bureaucrats at Washington, politically appointed, over whom the people have no control is a tremendous menace to the liberty of American citizens.

The people through ignorance and laziness are practically giving their liberty away, in submitting supinely to the rapid encroachments upon it by those who profit by their loss. When it is gone—when political and personal liberty are legends of the past—the pendulum will swing the other way. Liberty will again be valued and the long slow discouraging fight to regain it will begin.

Because I should like to see the working man hold fast to his freedom to dispose of his labor as he sees fit, I am not in sympathy with the effort of the closed shop policy to force him to join a labor union against his will.

Coercion Not The Spirit Of America

Written especially for AMERICAN INDUSTRIES

By **MRS. CHARLES WHITE NASH**

New York State Regent, Daughters of the American Revolution

UNDER a Constitution which was adopted by the people of the United States to "establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and to secure the blessings of liberty," thereby providing for themselves and their posterity equalities of opportunity and justice as well as of personal rights, the rise and growth of group control—which uses force if necessary to attain its

ends—in this country is not only at variance with the tenets of our fundamental provisions of government but should be an alarm signal.

For, if the complexities of our modern social, political and industrial life are tending to weaken the strength of the foundations upon which our whole structure rests then, perforce, the structure falls and our American republic standing as the greatest example of democracy, fails, adding but one more to that list of governments of the people" which have fallen of their own weight.

The development of "big business" in the United States may have brought about a condition which necessitated some protection for the worker but unionism, "grown drunk with its own power," has become a tyranny destructive to American principles.

The railway strikes, both municipal and national, and the mining strikes of the past year (while hundreds of others might be cited) but emphasize the fact that the differences between organized labor and organized capital must, and shall in the future, be settled in some manner which shall

not stop transportation and production and that the individual worker shall not only be able to exercise his right to earn his livelihood when, where, and for what price he chooses provided an employer desires his services, but shall be allowed to do so without persecution and without jeopardizing his life. Emergency or accident may cause delays or hardships which any right minded individual should bear without complaint but why should that individual be compelled, on account of differences of others which could quite as well be settled by arbitration, to suffer interference with his plans,

losses to his business, and the lack of necessities such as food and fuel, which mean life itself? And why should a man who does not choose to belong to a union but prefers to be master of himself, be forbidden privileges union members demand for themselves?

What difference to the consumer if an article is made by a union or a non-union man so long as it is well made?

When the laborer works for a spirit of toleration and fair play in industrialism then, and then only, can he with logic talk about internationalism

and world peace by destruction of armaments; his present attitude of group control by force is merely anarchy.

Coercion is not the spirit of America, it has no place here. The open shop is the only plan in industrialism which has any place in this country whose constitution not only advocates but safeguards the liberties and rights of the individual, and every thinking citizen should help to make a public opinion so strong that the growth of group control, by classes or masses, shall not only be retarded but wiped out in the United States of America.

Sees The Open Shop As Fair And Liberal

Written especially for AMERICAN INDUSTRIES

By VIRA B. WHITEHOUSE

President, Whitehouse Leather Products Company, Inc.

(Represented the United States Committee on Public Information in Switzerland during the War)

Former Chairman, New York State Women's Suffrage Party

FROM a disinterested but casual point of view, the open shop seems fair and liberal. But from the point of view of unions, it must undoubtedly present intolerable injustices.

Increases in wages and improvements in working conditions have been brought about by concerted and conscious action on the part of labor unions. Members of the unions have stood together and have sacrificed in strikes. It must be bitter for these men to see others who sacrificed nothing and think only of their own immediate interests, not only enjoying the results of the long and bitter union struggles but also weakening their power to retain these advantages or to obtain others. From their point of view, a closed shop is but a necessary protection and a matter of justice.

A manufacturer's stand on this subject is determined by conflicting influences. His immediate interests would undoubtedly lead him to pre-



Mrs. Whitehouse

fer an open shop. But a manufacturer's greatest asset is an intelligent, alert, self-respecting body of workers.

If a labor union procures for the worker conditions which enable him to become a more intelligent man and a better worker and if the closed shop is necessary for the life and effectiveness of the unions, then—in the long run—the closed shop should

be to the true interest of the manufacturer as well as of the worker.

But the question is not a simple one. It is complicated by the character of the men who lead on both sides. The possession of power works strangely upon men. A closed shop gives great power to the labor unions and their leaders. We all know instances of tyrannical labor unions just as we do of unscrupulous employers.

As long as the interests of workers and employers seem antagonistic, a closed shop will mean a more effective weapon in the hands of the workers in their struggle with the employers.

When the interests of the workers and employers are recognized as identical the closed shop becomes an instrument of a closer and more effective coöperation.

My own stand is clear. I became a manufacturer about a year and a half ago by purchasing a company which, while it was run as an open shop, was directed by men who were strongly opposed to labor unions. In the division of my factory where the union is strong enough to justify it, I maintain a closed shop—and my relations with the union and the union leaders are most harmonious.

Close No Doors To Willing Workers

Written especially for AMERICAN INDUSTRIES

By MARY G. KILBRETH

President, The Woman Patriot

THE whole theory of American life and happiness is based on the exercise of individual liberty. The price paid by the founders of the nation was too great to allow any impairment of that principle. No authority can ever be tolerated that presumes to restrict the lawful enjoyment of opportunities to work and be paid, to engage services and to pay for them,

on terms equitable and satisfactory to the parties directly concerned.

Normal relations in employment forbid any conditions that make membership or non-membership in any organization prerequisite to a chance to earn one's bread. Stable industrial conditions, with amicable relations promoting jointly the mutual interests of wage-earners, wage-payers and the consumers, are the concern of every citizen. America wants no doors closed to willing workers. Justice and

fair play demand that there be no discrimination between those who belong to labor unions and those who do not belong to them.

Equality of opportunity, liberty of contract, individual freedom, are American principles that recognize no limitations except those laid down by the law. If the Open Shop in industry is based on these fundamentals, then it has a valid claim on the support of all.

Strangling Open Competition Dangerous

Written especially for AMERICAN INDUSTRIES

By MINNIE BREWER

Organizer and Editor of "The Woman Voter"
Formerly Secretary, Mississippi League of Women Voters

I BELIEVE in an open shop, and especially for all public service corporations.

A closed shop was conceived of when labor appreciated that it had the advantage and it was intended as a means of coercing other laborers into joining their union. I do not believe any employer, either an individual or a corporation, has a right to blacklist or furnish obstruction to any employe who leaves his service or be guilty of any conduct that looks forward to coercing an employe to return. I do not believe any employe or association of employes, should be permitted to do anything to hinder any employer in obtaining labor or try to prevent other people who want work from obtaining employment.

Much confusion, has arisen in the past on account of unscrupulous employers undertaking to exploit labor, but the wise employers of labor have learned that labor is money and a necessary and essential part of a successful business and that more efficient service and better results are obtained from labor which is satisfied and contented over having a fair chance in life.

The sensible element of labor (and this in my opinion constitutes a large majority of our industrial workers, both men and women), have learned that when not treated fairly at one place of work to quietly quit and seek



Miss Brewer

some employer who will give them a fair chance. Every employe should have this chance. If all the shops, or any considerable portion of them, are closed shops it is extremely difficult to find the right employer. The great majority of girls and young women who seek employment do not expect or strive for promotion because it is a sort of temporary existence with them, as they plan to marry and better their condition so they will not have to work outside of the home. Employers should understand this and not become vexed or annoyed by the seeming lack of ambition for this inherited intention of marriage in every

normal girl or young woman works in the interest of society and no propaganda should be circulated with a view of changing their minds from this laudable ambition.

The public has suffered much in the past from strikes by employes and lockouts in public service corporations. I believe that Congress should so frame the laws that some committee, commission or court should have plenary power to break up such a condition, in the interest of the public: to ascertain who is at fault, whether employe or employer, and render such judgment as is equitable and fair to all parties. This judgment should be final and backed by the power of the government. I do not believe any public service corporation has a right to conduct a closed shop for the public has an interest in their business and when labor is needed a person who does not belong to a union is as much entitled to be employed as a union laborer.

Any plan or custom that tends to strangle open competition in any of the affairs of life is dangerous. One of the greatest life insurance corporations in the world, an organization that employs many thousands of laborers, both men and women, keeps an open shop. They have never had a strike, their labor is given a fair chance and if all business enterprises in America were managed as this institution is conducted there would be no strikes or labor unions, and no use for any organization of the kind.

Finds The Open Shop Brings Contentment

Written especially for AMERICAN INDUSTRIES

By EDNA J. DUNLOP

President, Women's Advertising Club of Milwaukee

HAVING been connected, as a newspaper woman, with the closed shop, and as a publicity woman, with an open shop, I feel that I can, without any exceptions, give my fullest support to the open shop.

There is a spirit of unrest about a closed shop which I have failed to find in the open shop. My first job on a newspaper, was in the proof room. A year later, the union was admitted, and, while I was not a printer, it was made obligatory on the union that proofreaders already employed on the sheet, be taken into the union. I was one of them and I received as a consequence, a raise of about \$5 a week over non-union wages. To my child's eye (I was only 17), it looked



Mrs. Dunlop

Photo by Stein.

big, but in later years I found that union wages were very good for the indolent or slow worker, while the hard worker was underpaid in comparison. The foreman explained that the union fixed the minimum wage and that he had to abide by its rulings to equalize things. But I never heard of a maximum wage—the minimum seemed to be the only one.

After five years in the proof room, I left newspaper work, to return ten years later, taking up the editorial end, finally drifting into publicity work at the time of the Second Liberty Loan. Before the war was really over, I associated myself with the Phoenix Hosiery Co., an organization of 3,550 people and a strong advocate of the open shop. It is an open shop because its officers are fair-minded and believe in the open shop as the best and fairest

means of conducting their business. There is no spirit of unrest in the entire fourteen factories, and all the men and women, union or non-union, are treated alike. There is a very small turnover in this organization because one satisfied employe brings in another and frequently there is a waiting list.

The open shop may have nothing to do with the contentment in the Phoenix organization, and it may have everything. Perhaps it is the spirit of fairness of the open shop that makes employes comfortable and happy in their work. It has always seemed to me that the first union must have been organized at a time when the employer had the idea that his employes were far below him and to be considered merely as cogs in a machine. This is not the modern idea. Nowadays, particularly in the open shop, the up-to-

date employer provides cafeterias; social events directed by the employes themselves; picnics, the total cost of which are paid for by the employer; bonuses, insurance, free medical attention and other aids towards the establishment of a human and sympathetic contact between the employes and employers.

Contrast this with the attitude of the average labor union which is concerned primarily with the question of wages. Unions, generally, do not seek to obtain the features enumerated above by calling on their employers and asking them—their idea of obtaining a so-called condition is to go with some organization—in Milwaukee the Socialist party very often—with the request that the party obtain legislation compelling the employer to put in the changes demanded. The effect of this

is to place unions and their adherents in one camp and employers in another. They are constantly warring, instead of obtaining the close coöperation that characterizes so many of the systems of management introduced in the open shop.

The old feeling that the "boss" was a sort of Czar has passed away in the last ten years, and nowadays a man in an open shop feels free to go to his employer and discuss with him the pros and cons of his work.

The American business man of today is not a Czar. He is a fair-minded, red-blooded citizen who welcomes the chance to help his fellow man. He wants the good worker paid all that is due him; at the same time he wants the worker who is perhaps not quite so competent and who does not turn out so much work, protected.

Endorses Work Of Open Shop Committee

Written especially for AMERICAN INDUSTRIES

By CATHARINE R. CHENOWETH

Founder, Society of Daughters of Holland Dames

AS the growing power of women in industry and their increasing contribution to our political life combine to make their views upon the "Open Shop" of real interest to American manufacturers, I send a few

words on the "Open Shop."

I agree that no person shall be refused employment or in any way discriminated against on account of membership or non-membership in any labor organization and there should be no discrimination against or interference with any employe who is not a

member of any labor organization by members of such organization.

This is a free country and no one should be refused employment who is worthy and capable to do the work, and I heartily endorse the efforts of the "Open Shop" Committee of the National Association of Manufacturers in their 1921 meeting.

Appeals To Most Of Women Wage Earners

Written especially for AMERICAN INDUSTRIES

By MERICA EVANS HOAGLAND

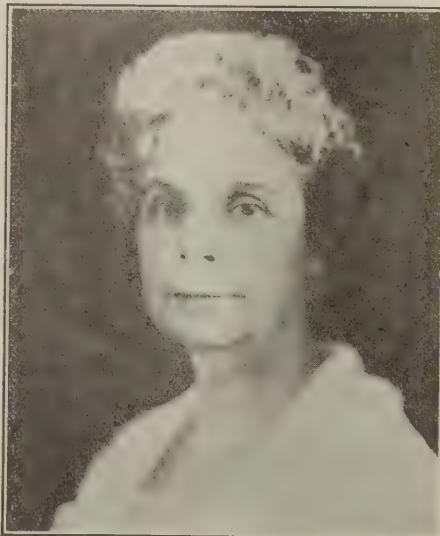
Director, Mutual Service, Diamond Chain and Manufacturing Company

Member of the Board of National Business and Professional Women's Clubs

THE open shop policy probably appeals to the majority of women wage earners in the United States because it is based upon the fundamental principle guaranteed citizens under the Federal Constitution and our State Bill of Rights.

To disregard the advancement made by labor unions in the past or to agree entirely with the advocates of closed shops would be equally foolish. As between a conservative National Federation of Labor organization of the past and the propaganda of the radical elements among present day labor leaders in open defiance of law and order, most of the women of America would probably prefer the Federation of Labor leadership, but the open shop plan appears superior to either.

In a Washington Women-in-Industry conference address, advocating labor legislation which would make



Miss Hoagland

conditions right for persons rather than the class of protective legislation for women which discriminates against their economic advancement, I said:

"Possibly union labor leaders may

not look with favor upon department store or shop forums, but I am frank to say to the unorganized working women of America that in gaining this new liberty of ours, I see no advantage in claiming an inheritance of industrial warfare, nor any future security in assuming the shackles of strikes. Public interest also demands their cessation."

The open shop program admits of the progressive successful organization of individual manufacturers and is identified with scientific management and efficient service to the buying public, as well as to the individual employes whose health and happiness are conserved through personnel administration shorn of paternalism so persistently recommended by the National Federation of Business and Professional Women's Clubs.

On the contrary, the closed shop often brings inefficiency in organization, arbitrary limits placed upon production and individual initiative while the collective bargaining conducted by the "walking delegate" so far removed

from present day working methods as to be utterly unfamiliar with the cost accountant's items, are often a real menace to the workers, the organization and the public.

An open shop machinist recently remarked, "When I was a member of the union which I repudiated because of its Prussianism, I heard much loud argument for the closed shop. Since I

have gained the individual freedom of the open shop, no one appears to take the time to talk about the economic situation which would be a welcome topic for profitable discussion."

Shop clubs or forums are recommended by the National Federation of Business and Professional Women's Clubs. These forums must lend themselves to free speech in discussion and

also to afford opportunity for men and women versed in economics to give the reasons for present day business methods. Men and women who have left school in the eighth grades to contribute their labor to industry, must become informed as to economic subjects if we in America are to be an educated industrial democracy, accepting the principles of open shop.

Would Limit Labor By The Open Shop

Written especially for AMERICAN INDUSTRIES

By MRS. W. H. CORLETT

Woman's City Club of Cleveland

MY interest in labor organizations was developed through the study of the condition of woman and children wage-earners in the United States.

The history of the textile industry, alone, convinced me that the labor union was the only force exerted to save the United States from tolerating the most despicable industrial abuses ever perpetrated in an English-speaking commonwealth. Every employer of labor should read the United States Report, Volume IX, History of Women in Industry in the United States, printed in 1910. Also the report of the United States Industrial Commission.

The Labor Unions have saved wage-earners from being objects of charity, and employers from heartless exploitation of workers. The union must stay, in order that our nation may be preserved from a standard of living so low that ignorance reigns instead of



Mrs. Corlett

reason. We have an example of such a régime following the working class program practiced by the late Czar of Russia. The results are not pleasing,

to people of culture in Russia or profitable to the proletariat.

The question now arises, how much power may a union have over the workers, and remain a constructive force? The closed shop would give the union absolute power over the destinies of wage earners.

If the governing council of the labor unions is made of "Super men," grant them absolute authority.

If they are not "Super men," inaugurate and preserve the "Open Gate," that the union men may have the needed check of non-union men among them. I do not believe that the executive committee of a labor union or the president of the Federation of Labor is any more invulnerable than the manufacturers' association; therefore I do not believe in the "Closed Shop" any more than I believe in the employers' "Black Lists."

Corporations must remain; their power must be limited by the labor union. The labor union must remain; its power must be limited by the "Open Shop."

Open Shop Gives All An Equal Chance

Written especially for AMERICAN INDUSTRIES

By ELIZABETH E. BLISS

Vice President, Meriden Women's Club and During the War, Colonel of Second Regiment of Connecticut Minute Women

ILIVE in a factory town—one in which the contest between "open" and "closed" shop has been waged—and I can still remember the streets of our little city crowded with sullen men and sad-faced women. To my

mind the "closed shop" is to be avoided.

The "open shop" is best: First, for the employe, in that it gives each man or woman an equal chance;

Second. It is best for the employer. It gives him the opportunity to pick his workmen according to their ability.

Thirdly. It is better for the consumer—with factories running smoothly, he can buy his product at the best prices.

Lastly. It is best for this country—the United States of America—which stands above all things for "freedom and liberty for all."

(Continued on page 27)

A COMPREHENSIVE INDUSTRY CONVENTION

World conditions; industrial production; the open shop; the coal situation; transportation; taxation and finance will be some of the subjects discussed at the annual convention of the National Association of Manufacturers, New York City, May 14, 15 and 16. In addition there will be features to promote fellowship.

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A CONVENTION WITH A PURPOSE

NEVER before in the history of America has there been greater need than to-day for a broad analysis of the industrial situation, and a careful shaping of procedure for the next six or eight months. Reports received from every section of the country and encompassing almost every line of industry show that production and consumption are on the most optimistic basis.

Numerous industries report better business than they have known in a decade; some have made great increases in their forces and their production and sales are maintaining an unusual level.

Far from there being any appearances of panic or slackening of industry, there is reported a strong, substantial gain that looks to be on a lasting basis, if a continued flow of labor can be obtained; but the question is being asked almost every day whether there is any likelihood of a break in this unusual prosperity; whether we are not running the ship a little too fast for a safe, long cruise.

Discussion of this immediate and pressing problem will be one of the principal features of the forthcoming

convention of the National Association of Manufacturers, at the Waldorf-Astoria Hotel, New York City, May 14, 15 and 16. The subject will be considered in all its phases in an Industrial Production Session on the opening night of the Convention. Some of those who will analyze the present trend are Colonel M. C. Rorty, president of the Telephone Securities Company and president of the National Bureau of Economic Research, recognized nationally as one of the foremost authorities on economics and Dr. David Friday, president of the Michigan Agricultural College, who is classed as one of the leading statistical authorities in the nation.

Each of these speakers will present a thorough study and analysis of the situation of to-day, pointing out the general trend and submitting suggestions to insure stable progress during the next twelve months.

Also discussing this particular subject will be Hays H. Clemens, president of the Hays Manufacturing Company, Erie, Pa.; Acheson Smith, president of the Acheson Graphite Company, Buffalo, N. Y.; and Harold C. Smith, president of the Illinois Tool Works, Chicago, and chairman of the Industrial Training Committee of the National Metal Trades Association.

Students of economics point to the need for unusual caution at the present, for there can be little question that the great majority of industrial establishments are experiencing good times; that they expect this situation to continue almost regardless of such situations as may arise in other parts of the world. But, many who are compelled to advance the prices of their products because of the higher costs of labor and raw materials, are frankly sounding a note of caution lest there be some reaction on the part of the public against any unreasonable advance in consumers' prices.

This session of the convention is of vital and definite interest to every manufacturer throughout the country and should bring to New York the largest group of manufacturers ever assembled on the opening day

of the meeting, for upon the action taken at this gathering depends much of the economic prosperity and stability for which the whole nation is looking.

Naturally, many other subjects of prime importance to the manufacturers and the nation, will be discussed and acted upon. Transportation, merchant marine, immigration, construction, open shop and the coal situation, will all be presented; while the Open Forum for the members of the Association, to be conducted on Wednesday afternoon, should be productive of most valuable suggestions for industry. Never before has the floor of the convention been thrown open to such a meeting and its object is to give an opportunity for individual expression with the view of adopting such suggestions and recommendations as may be of distinct service to industry as a whole.

Every assurance is already at hand that this will be the largest convention in the history of the Association, from point of actual registration; and the most effective in point of subjects discussed and definite action taken. Responses are coming in by the hundreds and the reservations for the banquet on the last evening give promise that this feature of the program will be a distinct chapter in the history of the Association.

THE MINIMUM WAGE DECISION

By JOHN E. EDGERTON

President, National Association of Manufacturers

THE National Association of Manufacturers at its 1920 convention declared as follows:

"Right employment relations are not made by legislation. They are a human growth and not a manufacture.

"The parties must be free to make and maintain their own relationship, individually or collectively, in such form as is mutually satisfactory and in accordance with the size, nature and varying circumstance of each particular establishment.

"It is the primary duty of government to protect each person in his liberty to select and pursue any lawful

business or occupation without molestation, to freely further his interest by legitimate agreements and to be secure in the reward of his effort."

The decision of the United States Supreme Court points out that the District of Columbia minimum wage act was arbitrary, unreasonable, and confiscatory since under it wages could be established without reference to:

(1) Desire of parties to freely contract with one another as to wage to be paid for service.

(2) Earning power of the employee.

(3) Number of hours constituting day's work.

(4) Character of place where work is to be done.

(5) Circumstances or surroundings of the employment.

(6) Necessities of both parties to the contract, not considering financial position of employer's business.

(7) Periods of stress and business depression.

The Supreme Court clearly points out the great fallacy and harm of the statute:

"It compels him (the employer) to pay at least the sum fixed in any event,

because the employee needs it, but requires no service of equivalent value from the employee. It therefore undertakes to solve but one-half of the problem. The other half is the establishment of a corresponding standard of efficiency, and this forms no part of the policy of the legislation, although in practice the former half without the latter must lead to ultimate failure, in accordance with the inexorable law that no one can continue indefinitely to take out more than he puts in without ultimately exhausting the supply."

The experience of other countries with minimum wage laws supports the above opinion, since it has been almost universally recognized (1) that the minimum tends to become the maximum and (2) that it results also in eventual unemployment for large numbers, whom the employer cannot afford to hire.

One of the vice-presidents of the American Federation has interestingly pointed out that after all "organized labor" may be the gainer by the decision, since under it "Industrial Court" acts may also be held invalid.

The decision is, moreover, in abso-

lute harmony with the efforts of many women's organizations to have removed all laws providing special protection for women in industry.

There has been much clamor for popular control of Federal judges and similar measures. I cannot but believe that the best interests of labor itself are best served by men such as Chief Justice Taft who are not dependent on the popular whim but decide as they see the right—Mr. Taft, for example, deciding against the claims of labor unionism in the Child Labor Case and with their arguments in the Minimum Wage case.

On the facts presented it is hard to see how the Supreme Court could have come to any other decision in the Minimum Wage case than it reached. There is a growing and dangerous reliance on law to provide justice for every ill imagined; this decision may also cause some to think seriously of the ultimate industrial and social effects of laws which attempt to raise wages by government fiat without reference to output. There is no "secret fund" without relation to current production from which wages can be drawn.

GIVES ALL AN EQUAL CHANCE

(Continued from page 25)

The employer cannot exist without the employee—nor the employee without the employer. One supplies the

brains, the other the hands. One takes the risk—the other fulfills it—if he will. The one cannot exist without the other, and the sooner each realizes it the better for us all.

Capital and labor go hand in hand, the balance of power should be equal and the "open shop" gives the better opportunity of arriving at that end, of "Freedom and Liberty for all."

Many Strike Against Their Will

Written especially for AMERICAN INDUSTRIES

By ISABELLE IVES MESSENGER

Secretary, New York State Federation of Women's Clubs

IN this land of freedom and of equal opportunity for all, the Closed Shop seems to be entirely against the fundamental principles established by our forefathers and followed in a measure to the present time.

If the tests were one of perfection in craftsmanship—that only those who had reached that degree of perfection could work—so that the finished product, whether it be shoes or wheelbarrows, should be perfect, there might be some reason for the Closed Shop—but this is not the idea.

One group of men says to another—you cannot work here unless you agree to do as we dictate—you must work when we say so—stop when we give the word and pay so much of your

earnings into our treasury; and if you do not do these things we will try to hinder you from getting work anywhere. Any number of workmen have said that they were intimidated into joining the union.

During the street car strike in Buffalo last summer different men were questioned—"Did you want to strike?" "No." "Were you dissatisfied?" "No." "Then why did you strike?" "Because I was told that I must go out with the others." This seems so unfair that the wonder is that so many will stand by and raise no voice in protest.

Let us each be co-laborers together in the common cause of raising the standards of American labor to the highest degree of perfection. This can only be done on the open shop plan where each receives fair and just treatment.



Mrs. Messenger

(Continued from page 20.)
special drive. Our prevailing rate here now is \$15 a day."

Over in Brooklyn there is a less prententious concern engaged upon a smaller housing enterprise. This is the story the boss mason told there:

"You have to coax them and you have to coddle them to hold them. We have been limping along with five bricklayers laying up the outer walls. All of them are Italians. Two or three of them have worked for me often before. With them I could count on a certain degree of loyalty. The other day, after the noon hour, the two newer men calmly gathered up their tools and started down the street.

"One of my loyal men sounded the alarm and we followed and held the deserters up at the corner. Pietro was not a whit abashed. 'We getta da mon,' he explained. 'Giuseppe, round by da avnoo, he make da five dol' bonus. He promise pay us da fifteen a day.'

"Of course there was nothing for me to do but 'see' Giuseppe's raise. My loyal men added their persuasive powers in a whirlwind of Calabrian eloquence and gesticulation. The renegades came back to my job, but, naturally, we are compelled to pay the \$5 bonus daily to the whole bunch. The same loyal chaps at times have held others to their allegiance through home influences exerted through their wives."

Paterno & Son, contracting corporation, of 200 West Seventy-second street, have several large operations under way in Manhattan, one of them an apartment house that is going up in Riverside Drive opposite the Soldiers and Sailors' Monument.

"It's a runaway labor market for fair," said Francis S. Paterno, "and we sure are up against it this year. The scarcity in virtually all branches of skilled and unskilled labor is far worse than last year. There can be no doubt about that. The tremendous shortage is making itself felt more seriously every day. I have a lot of men working for me, but they are demanding bonuses and extra compensation in one form or another continually. And we are losing men daily who tell us they are leaving because they have been offered better pay elsewhere.

"We are greatly worried over the outlook. It is bad in all the trades. With sharply restricted immigration no relief is promised from abroad. With warmer weather, too, work now is opening up in the country districts, and many men, who like a touch of country air as well as does any other capitalist, are being attracted away from the city jobs."

Mr. Rogers, of Fred T. Ley & Co.,

Inc., another Manhattan corporation with extensive building operations under way, estimated that by June 1, the number of bricklayers who could be advantageously employed in the metropolitan district would be at least 2,000 in excess of the available supply.

Mr. Armistead, of Dwight P. Robinson & Co., Inc., engineers and contractors, said their big Park avenue apartment house construction operation had not yet progressed beyond the excavation stage, but they had encountered plenty of trouble last year and were looking forward with grave misgivings toward the wall building difficulties they probably would confront in two or three weeks.

Over in Long Island City Henry C. Irons & Sons have the construction contract for the \$7,000,000 Metropolitan Life group of apartment houses clustered near the Bliss avenue station of the Queens extension. These comprise fifty-four separate apartment houses, planned for the housing of

2,125 tenants on a rental basis of \$9 per room. On the scene of that interesting project acres of ground are littered with mountains of brick, laths, finished window frames and structural steel, all waiting for the rearing of the walls.

Robert Glenn, construction superintendent for the contracting firm, said he had on the big job 125 bricklayers, all now receiving \$12 a day with no overtime charges or bonuses and all observing the usual holidays and the half holiday Saturdays. He could use to advantage double the number of bricklayers he now has if he could get them.

"A new gang of fifteen are due to start next Monday. We are confident this operation will be completed, as originally planned, by the spring of 1924, and that, despite the high cost of both materials and labor, it still will be possible to realize the original ideal of restricting rental cost to about \$9 per room."

Acceptance Financing

THE International Acceptance Bank, Inc., of New York, has issued a very interesting eighty-page booklet written by Mr. James P. Warburg, vice-president of that institution, entitled "Acceptance Financing and the International Acceptance Bank, Inc."

While most of the literature on this and similar subjects is couched in technical language, this is an exceptionally clear and original treatise and one that is easily understood even by those unfamiliar with banking practice.

The "Acceptance" has long been a favored method of financing abroad and it is only in recent years that our country has begun to realize its advantages. The dominating financial position which England has held for many years is due, in a large part, to her mastery of the use of the "Acceptance" and the ready discount market for such paper provided by London's well known "Lombard Street." The strong position of English merchants in relation to foreign trade is also to an important degree due to their familiarity with the use of this excellent financial instrument. Unfortunately, our manufacturing industries, importers and exporters have not been as well versed in international banking as their competitors abroad but as this obstacle is being gradually overcome, our overseas commerce and discount market will benefit accordingly. Great strides have been made in this country, however, during the past few years and our merchants are beginning to avail themselves more

freely of the use of the "Acceptance" in financing their commercial transactions. Prime bank and commercial bills are finding their way into the portfolios of conservative investors—both public and private—in an increasing volume.

The pamphlet, which can be obtained from the International Acceptance Bank, Inc., on request, is divided into four parts, the first part containing a brief sketch of the origin and development of the discount market in America, with one chapter devoted to the desirability of the "Acceptance" as an investment. Part two sets forth the different varieties of "Acceptance" financing and how they can be adapted to the needs of some of our important industries. Part three touches on the relationship between customer and bank from the bank's point of view, and part four is devoted to a short statement of the facilities offered by the International Acceptance Bank, Inc.

TRADE ANNOUNCEMENTS FREE

According to a memorandum from the Bureau of Foreign and Domestic Commerce, the American Trade Commissioner stationed at Prague, Czechoslovakia, reports that the *Prager Presse*, Nerudova ulice 5, Praha III, published in the German language by the Czechoslovak Government, wishes to promote trade relations with foreign countries by publishing free of charge all offers of goods of foreign manufacture and all foreign inquiries for Czecho-Slovak products.

Ports Of The Nation—Mobile

Southern Gulf-edge city has assumed important status as a port of exportation, importation and coastwise traffic, clearing its cargoes of Birmingham steels to many sections of the old world

Written especially for AMERICAN INDUSTRIES

By GORDON SMITH

President, Mobile Chamber of Commerce

BBROADCASTING from a Mobile radio station, the announcer nightly repeats the phrase: "Mobile, Southern Doorway of the Continent."

Alabama's most renowned statesman, the late Senator John T. Morgan, made the prediction that Alabama would become the "Front Porch of the Nation" upon the completion of that interoceanic waterway and the canalization of the Tombigbee-Warrior River system.

Here, it is seen, Progress has overtaken Prophecy. Alabama's venerable Senator dreamed true.

The port of Mobile has become an important outlet for the commerce of that vast natural sub-division of this continent which lies between the mountains of the east and those of the west. As a port of exportation, importation and coastwise trade its strategic advantage is widely recognized.

Alabama steel rails, iron pipe, coal and other products of the mineral district are loaded into ships at Mobile from Warrior River barges and railroad cars for shipment through the Panama Canal to the Orient, to South America and to our own ports on the Pacific in greater volume than the most enthusiastic early advocates of the waterways could have foreseen for

this period. The volume of return freight from Pacific ports that enters Mobile for distribution throughout the Mississippi Valley has furnished one of the gratifying surprises of interoceanic commerce.



Gordon Smith

By reason of the low cost of material and transportation, by way of the port of Mobile, the Orient obtains Birmingham steel rails and plates at greater economy than from any other manufacturing center in the world.

Waterway, barge line, proximity to the Alabama seaport and favorable conditions of production prevent the transportation cost, on a "Pittsburgh plus" base, from absorbing the profits on Alabama metal products shipped to points on the Pacific via the port of Mobile.

At the time this was written, the American steamer *Steel Mariner* had but recently sailed for Kobe, Yokohama and other points in the Orient with 4,000 tons of steel rails from the Birmingham district, the British steamer *Hatamuri* was loading 5,600 tons of steel rails, also for the Orient, while the American steamer *Knoxville City* had just arrived to take 5,500 tons of steel destined for the same part of the world. The *Steel Mariner* and the *Knoxville City* both are United States Steel Corporation steamers, and the *Hatamuri* is under charter for that corporation. Reports from Birmingham indicate that this movement of steel through Mobile will continue in increasing volume.

Australian apple growers required acid phosphate for their orchards and obtained it through the port of Mobile from the Ensley works of the Tennessee Coal, Iron and Railroad Company, where this phosphate is manufactured from open-hearth furnace slag. Honolulu recently has received



Permanent coal and ore handling plant



Warrior River barge with coal for export

large quantities of water pipe from the Birmingham district, via the Alabama seaport and the Panama Canal. The Pacific Coast of the United States has become one of the largest users of soil and water pipe from Anniston, Gadsden and Birmingham foundries.

Current statistics on this commerce must be carefully studied to be thoroughly understood. Many of the vessels loading steel rails and other heavy cargo at Mobile proceed to some other port on the Gulf for lighter freights with which to complete their cargoes. All of the cargo a vessel collects, if she call at two or more ports, is sometimes credited to the last port of call. Only a careful analysis of final Government figures will detect this error, in some instances.

Mobile's foreign trade is increasing. During the month of February, this year, 48 steamers from foreign ports arrived at Mobile, their net tonnage being 118,058 tons. During the same period 21 coastwise steamers, nine schooners, three barges, and two square-rigged vessels arrived. The total tonnage of vessels arriving for the month was 186,479, as shown by the report of the State Harbor Commission, which is the port authority. This is a substantial increase over the tonnage of arrivals during the previous month and over that recorded for the same month last year.

New import business for the port of Mobile includes large shipments of manganese ore from Rio de Janeiro, for the steel plants of the Birmingham district. Shortly before the duty on manganese was imposed by the latest tariff last year, ships owned or chartered by the United States Steel Corporation, or its subsidiary companies, rushed in through Mobile 37,000 tons of the ore from Brazil. This was handled by the coal and ore handling

plants completed in July, 1922, by the Waterways service, and the Warrior barge line it serves, with such economy and dispatch that these shipments have been resumed. The British steamer *Koranton* arrived March 19 carrying 9,500 tons of manganese ore consigned to the United States Steel Corporation and it was immediately discharged onto Warrior barges and the storage bins at the coal and ore handling plant, whence it will be transported by the barge line to Birmingham.

The ore is taken from the hold of the ship by the 4-ton bucket operated by the plant and in smaller containers operated with ship's tackle. It is handled at a cost of 15 cents per ton, as against an expense of \$1 per ton prior to the installation of the modern plant which the government has put in for exclusive use in connection with its barge line. The storage pile has a capacity of 40,000 tons of coal or ore, which enables the unloading of several ship cargoes and the gradual re-

moval of the ore, at the convenience of the barges. This northward movement gives the barge line a much-needed up-river trade, which is further supplemented by the shipment of general cargo from Mobile to Demopolis, Birmingham and points distant from the river, under joint river and rail rates, which are about 20% less than all-rail rates between the same points.

Other items of new trade which contributes to increase the commerce of the Alabama seaport include potash, nitrate of soda and other fertilizer materials. The Alabama Farm Bureau Federation recently received a cargo of 6,000 tons of nitrate of soda through this port and it was unloaded at the municipal transit sheds without charge for wharfage on this particular cargo. Four cargoes of potash from the mines operated by concession of the French Government in Alsace-Lorraine also have arrived, and soon are to arrive for distribution by the farm organization in Alabama and adjoining states. The Societe Commerciales des Potasses d'Alsace ships this potash from the port of Antwerp.

New business brought to the port through the installation of the government coal and ore handling plant has given the people of Mobile and Alabama an object lesson as to what can be accomplished for a seaport by the addition of modern terminal facilities. Systematic and determined efforts are being made to create at Mobile a state-owned plant for the economic handling of all classes of freight that may be attracted to the port by such facilities as adequate storage for the accumulation of grain in bulk, and sprinkler-protected ship-side warehouses for cotton, machinery for export and package freights, generally.

To accomplish this, the people of



Turner Terminals crowded with shipping

Alabama voted in November, at the time of the latest general election, to permit the state to lend its credit to the amount of ten million dollars for the creation of terminals at the seaport to be owned and controlled by the state through its harbor commission or like governing body. This amendment was made necessary by a section of an antiquated constitution which prohibits the state from engaging in works of internal improvement or lending its credit for such. It was given a larger majority than has been given to any other of the many amendments proposed in the effort to patch up a constitution designed for another and a differently visioned era in Alabama history.

Governor William W. Brandon, of Alabama, an advocate of seaport improvement by the state, has submitted questions that have arisen relative to the validity of the amendment and the state's right to issue port securities thereunder, to the Supreme Court of the state for an advisory opinion, which is expected to be rendered some time in April. In the meantime, the legislative session which convened in January has recessed until July and the necessary acts to place the port amendment into effect will be adopted at that time, whether the court's decision is favorable or adverse to the port. If the advisory opinion of the Supreme Court is unfavorable, the proposed amendment, redrawn in conformity to the views of the court, will be resubmitted to an electorate already thoroughly in accord with this plan for the development of Alabama's commerce. So, in any event, work will begin on the state-owned terminals at some time this fall or next spring.

The state harbor commission has declared its intention to employ the best and most experienced port engi-



Todd Shipbuilding and Dry Dock Company's plant

neers obtainable to make a survey of the port's needs and to coördinate all of the units of the plant with relation to rail and barge delivery of all classes of freight to shipside or storage. Important economies can be effected by an arrangement of terminals which will permit ships to take heavy and light cargo at or near the same berth, instead of at different ports or widely separated points at the port of Mobile.

Practically all of the Mobile River frontage, within the city limits, west of the river, is occupied by wharves, transit sheds and warehouses. There are several creeks and bayous immediately above the city limits that are available for harbor improvement. The present terminals extend along the river front for a distance of ap-

proximately 15,000 feet, while the east bank of the river, Blakeley and Pinto Islands, are occupied only by ship repair plants and, immediately above the city, by the government coal and ore handling plant and Shipping Board fuel oil station. There is no scarcity of room here for harbor expansion and terminal improvement.

The city of Mobile early acquired a frontage of 1,500 feet at a central point on the water front and has improved it with a steel transit shed having a width of 100 feet and covering almost the entire area. This shed has a concrete floor and is the Mobile landing of the Mississippi-Warrior barge line, the river packet lines and the berthing place for numerous steamships. It is served with rail connections. Below the mouth of the river are the municipally owned Arlington docks with a berthing space of approximately 8,000 feet. This plant, with its proposed railroad connections and classification yards, was started before the World War and was never completed for commerce; though it furnishes excellent protection for the southern end of the waterfront.

A survey of the port's facilities recently made by the Mobile Chamber of Commerce, shows that the total berthing space at slips and river front wharves is 15,005 feet, not including Arlington docks.

These are operated by the Mobile and Ohio Railroad, the Southern Railway, the Louisville and Nashville Railroad, the Gulf Mobile and Northern and the Alabama Tennessee and Northern Railroads, and by the Turner Terminal Company, which has three wharves with a total berthing



Alabama Dry Dock and Shipbuilding Company's plant

space of 4,800 feet, shipside warehouse and sheds with a total covered floor area of 165,000 square feet. The Mobile and Ohio Railroad operates an elevator which handles grain in transit with dispatch, but its storage capacity is only 225,000 bushels. Railroad and privately owned facilities for handling bunker and cargo coal are ample for present needs. In addition to the Shipping Board fuel oil station, two companies handle fuel oil in large quantities and with modern equipment.

For shipbuilding and ship repairs, the port of Mobile has few rivals on the Gulf or South Atlantic. Its plants include the 10,000-ton dry docks of the Alabama Dry Dock and Shipbuilding Company and Todd Shipbuilding and Dry Dock Company, Inc. The Chickasaw plant of the United States Steel Corporation, near Mobile, has built many steel steamers and barges but is temporarily closed.

Mobile ranks high as a banana port. With the aid of electrically operated conveyors, steamers from the tropics are unloaded with dispatch and the fruit loaded into freight cars for distribution throughout the Mississippi Valley, and beyond.

Through barge line rates on export grain from St. Louis and Cairo to Mobile have been published by the Mississippi-Warrior barge line management. This is the first export rate given to Mobile from points on the upper Mississippi River. The new rate from St. Louis is 4.9 lower than the all rail rate, and from Cairo, 3.4 lower than the rail rate. This includes all classes of grain and grain products in carload lots and places Mobile on a parity with New Orleans for this class of freight by water. At present it will only be actually applied on barge load lots, because of the scarcity of equipment suitable for both river and Mississippi sound transportation purposes. Domestic rates from the railroad crossings on the Mississippi River to Mobile via the barge line have been in effect for several months. Mobile is nearer by actual mileage than any other Gulf port to Memphis, Cairo, St. Louis, Chicago, and to all Ohio River crossings. Having trunk lines to these points, Mobile

can assure delivery at the seaboard as quickly as any river port and, now that the barge line rate is published, no other gulf port can claim advantage in rates. Physical conditions prevailing at Mobile permit the handling here of all import and export traffic on an equality with all competing points. As a package port, Mobile has no superiors and but few equals. The waterfront labor situation is particularly favorable to this.

Steamship lines make regular sailings from Mobile to Cuba, British, Dutch and French West Indies, Haiti, Jamaica, Porto Rico, San Domingo, Argentine, Colombia, Dutch Guiana,

Trinidad, Uruguay, Venezuela, British Guiana, Honduras, British Honduras, Gambia; United Kingdom ports, including Aberdeen, Cardiff, Glasgow, Greenock, Liverpool, London, Manchester, Newcastle, and Southampton; France, Belgium, Germany, Holland, Portugal, Spain, Japan, British Columbia and Alaska. Five different lines make regular sailings to United States ports on the Pacific, four to the Orient, six to the United Kingdom and one to New York. The Aluminum Line, to the West Indies, recently has been added to the list, making five steamer lines from Mobile to the Islands.

Universal Gas Mask

Development of a "Universal Gas Mask" which is considered to have the widest application of any gas mask thus far devised, and which fills every demand that may reasonably be made on a gas mask, is announced by the Department of the Interior as the result of experimental work performed by the Bureau of Mines at its Pittsburgh, Pa., station. The Department also announces the development of a "Fireman's canister" which is similar to the "Universal canister," but is smaller and lighter, thus making it more convenient for the use of city firemen. By the use of these types of gas masks, workers in many metallurgical and chemical plants may encounter a variety of gases and city firemen may meet almost any type or gas or vapor, and do work that they could not do otherwise except at the risk of death or serious disability.

The army gas mask as developed during the war gave protection against all the poisonous gases, vapors, and smoke encountered on the field of battle. But when, after the war, army-type gas masks were advocated for use in metallurgical, chemical, and other industries where noxious gases or fumes occur, the Bureau of Mines immediately pointed out that the masks give no protection against ammonia gas used in refrigerating plants, or against carbon monoxide, a constituent of blast-furnace gas, pro-

ducer gas, water gas, and coal gas. Carbon monoxide is formed by the incomplete combustion of carbonaceous matter and is a constituent of the gases from certain explosives. Recently, special gas masks having canisters containing absorbents designed for protection against ammonia or from carbon monoxide have been developed, but these afford little or no protection against other gases.

To combine efficiently in one canister the absorbents for all noxious gases is difficult because the absorbents for certain gases are best when moist, whereas an absorbent or catalyst for carbon monoxide can be used only when perfectly dry. Hence it becomes necessary to use dry absorbents for the other gases.

After an extended series of experiments by the Bureau of Mines the "Universal" gas mask was developed. The canister contains granular absorbents, consisting of activated charcoal, for removing organic vapors; a filter of cotton wool for removing smokes, dusts, and mists; caustic soda fused on pumice stone for removing acid gases; another cotton-wool filter; fused calcium chloride for extracting water vapor that inhibits action of the next absorbent; "hopcalite," a mixture of oxides of manganese and copper with sometimes silver and cobalt that destroys carbon monoxide; and finally silica gel for absorbing ammonia.

A CONVENTION WITH A DISTINCTION

The membership of the National Association of Manufacturers is composed of manufacturers alone. The association is representative of the nation's industry. Its convention is in the nature of an industrial parliament, presenting and considering those things which interest the manufacturer. That is why you, as a manufacturer, should attend the convention at the Waldorf-Astoria, New York, May 14, 15 and 16.

Seapower And National Prosperity

The nation must have an ample merchant marine and navy capable of guaranteeing peace and protection to its citizens in extending its commercial outposts into every possible part of the world

Written especially for AMERICAN INDUSTRIES

By Lieutenant-Commander R. R. M. EMMET

Bureau of Navigation, United States Navy

A NEW America has come to pass. It is a fact, increasingly recognized by all intelligent citizens of this country, that the margin of their prosperity is coming to be more and more measured by the volume of their foreign trade. Our country has passed the development stage. Our frontiers are now the oceans. We have become a creditor nation. We have bred and otherwise acquired one hundred and ten millions of people. We have created enormous manufacturing and agricultural facilities. If our people are to maintain their present splendid standard of living—if they are to continue to be fed and clothed and housed better than any other people in the world—they must secure outlets abroad for free and profitable disposal of the surplus products of their farms and factories.

There are many countries and localities in the world that will be progressively capable of absorbing vast quantities of our surplus products. China, the Near East, Central Asia, Africa, South and Central America immediately occur to the mind.

In all these places except those in the Americas the peoples inhabiting them have not full sovereignty. There are spheres of influence and concessions. Practically speaking, there is not equal opportunity for all for trade and commerce. In the Americas there is equal opportunity. This is because the United States, rigidly adhering to the Monroe Doctrine, has effectually prevented the domination or exploitation of any American country by outside powers and at the same time has refrained from dominating or exploiting these countries for her own advantage.

The United States has for three-quarters of a century endeavored to extend the principle of the Open Door and equal trade opportunities for all, to include China and other undeveloped or semi-developed localities. We are attempting to apply it to Turkey and the Near East. We have not been overly successful, and yet if we could get the principle accepted by world opinion, it would be a most tremen-

dous forward step toward permanent world peace and stability.

The recorded history of the world from the earliest times right down to



(U. S. NAVY) Lieutenant-Commander Emmet

the present, presents a uniform record of nations engaging in bloody war to secure advantages in foreign trade. They have fought for concessions, for spheres of influence, for the right to solely exploit or to dominate or to annex.

A nation like Great Britain or France, or Japan, that needed to secure additional markets for surplus products, has inevitably been forced to resort to force to get them.

The United States abhors acquiring wealth by such methods, even though they have been considered perfectly legitimate for a great many hundred years. We don't intend to seek wealth by the sword. We are willing to pay for our prosperity with the sweat of our brows and the labor of our hands and brains, and not with the groans of subject peoples.

What is the alternative? We are bound to establish our foreign trade—sooner or later the energy and genius of our young men will insure that—and yet we don't want to achieve it with the sword.

The logical, the simple alternative

is the firm prosecution and insistence on our right to trade freely and without unjust discriminations wherever we will, so long as we obey the laws of the lands concerned. In addition, and of essential importance, we must back that principle up with Seapower.

Seapower in itself is not aggressive. Coupled with great and imposing land armaments, such as were possessed by the late German Empire, it is a sign of aggression and could rightfully be viewed with alarm by other nations. Our small army and our clear record of 150 years since the Declaration of Independence is proof positive of our pacific intentions toward the rest of the world.

We don't need a great and imposing Seapower to achieve our ends. We don't need an overwhelming force of ships of war capable of crushing the other Navies of the world. We do need a healthy, vigorous Merchant Marine capable of providing bottoms for at least half our trade and backed up by an efficient Navy, equal in force to any other in the world.

We have more latent power than any other nation in the world. We are for the present the richest nation in the world. If our latent power is to react to our advantage, there must be some outward and visible sign of it. Everything worth having in this world must be paid for.

No business man who expects to succeed would put his affairs in the hands of his principal competitors and expect them to administer them to his advantage and not to their own. Yet that is precisely the situation in which many of our citizens seem to want to place this country. They are against measures calculated to produce a Merchant Marine, though it would seem fairly apparent that if we depend on our principal trade competitors to provide the ocean carriage for our goods, there will come a day when those competitors will use their control of this prime necessity to advance their interest at the expense of our own.

There are many people who want to reduce the Navy to the point of impotency, forgetting that an impotent

United States must be fair game to any other nation possessed of the requisite force to dare to take advantage of her. China, with 450,000,000 of people, is prostrate in the dust because she has not had either the ability or the will to secure the necessary degree of respect for her rights and interests by her neighbors in the world.

We don't require a Navy because we expect to use it against Great Britain or Japan or France or Italy, or any other nation in the world. We do need a Navy as an outward and visible sign to the rest of the world that we are prepared and ready to sturdily and fearlessly support our just rights and the just rights of the least of our citizens whenever and wherever they may be jeopardized.

"When a strong man armed keepeth his palace, his goods are in peace.

"But when a stronger than he shall come upon him, and overcome him, he taketh from his all his armour wherein he trusted, and divideth his spoils."

Jesus Christ spoke the words quoted above, as reported by St. Luke, nearly nineteen hundred years ago. The philosophy they express is strictly applicable to the needs of the United States to-day.

A sturdy, self-reliant United States, adequately armed to support justice and right, need have no fears for its future security and prosperity.

A weak, slothful United States, impotent to either defend its borders or advance the lawful interests of its citizens, need have every fear for the future.

The one inevitably would prove an unsurpassed force for preserving the peace and stability of the world. The other would inevitably jeopardize that peace and stability. Great wealth that is defenseless, always is provocative of attack, whether it be possessed by a nation or an individual. We have countless examples to prove that statement both in the history of nations and the history of individuals. It must never be forgotten that history always repeats itself.

What is the present status of American Seapower?

Before answering, it is necessary to define what is meant by the Seapower of a nation.

Seapower is composed of:

1. The Merchant Marine.
2. The Navy.
3. Naval and Commercial Bases.

The British Merchant Marine is incomparably superior to any other in the world.

Great Britain has three times as many merchant ships suitable to conversion to Naval use in time of war as has the United States.

Great Britain habitually employs at

sea over four times as many seamen and engineers as does the United States. Her maximum possible naval reserve of trained seamen and engineers is therefore 400 per cent in excess of the United States.

On paper the United States Merchant Marine is greatly superior to that of Japan. Actually we are on terms of substantial equality with Japan. They have a vigorous, healthy, growing Marine, constantly expanding, that earns dividends. We have a Marine largely composed of worn-out German ships or ships hastily constructed during war time. Two-thirds of our ships are tied up, rotting, and a good proportion of the remainder are not earning dividends. The Japanese, considering tonnage in active commercial operation, are for the present substantially our equal in ships suitable for conversion to Naval use, and in trained seamen and engineers who habitually follow the sea. In a few years they will inevitably become superior to us unless we promptly initiate and energetically carry out measures that will enable United States merchant vessels to compete on at least equal terms with those of Great Britain and Japan, which is emphatically not the case at present.

When we come to examine Naval strength we find again Great Britain decisively in the lead.

Summarizing briefly:

1. The British capital ships have been rebuilt and modernized in accordance with lessons learned during the war. As a fleet, they decisively outclass the United States.

2. Britain is decisively superior in airplane carriers built.

3. Britain is decisively superior in light cruisers.

4. The United States has about 100 more first line destroyers. To offset this, the British have about twenty-five destroyer leaders (super-destroyers) to our none, and two-thirds of the United States destroyers are entirely out of commission due to lack of personnel to maintain them in commission. It takes longer to adequately train a destroyer's crew than to build the vessel. The delicate, high-pressure machinery of these vessels deteriorates very fast when the ships are laid up with no crews on board.

5. The United States has a paper superiority in submarines, though many of our boats are small and their design dates back to pre-war days. We are relatively very deficient in large ocean-going submarines and in mine-laying submarines.

6. In Naval Aviation the British are tremendously superior.

7. The British maintain at least

20,000 more officers and men in the Royal Navy, the colonial Navy, the Royal Indian Marine, and that portion of the Royal air force available primarily for Naval uses than does the United States.

8. Britain's Naval Reserve is almost entirely composed of officers and men who habitually follow the sea as a means of livelihood. In the United States the reverse is the rule. The great bulk of our Naval Reservists do not follow the sea as a profession.

Now let us examine the naval situation of the United States as compared to Japan:

1. The Japanese have ten capital ships, two of which are armed with sixteen-inch guns, and eight with fourteen-inch guns. The United States has eighteen capital ships, three of which will be armed with sixteen-inch guns, eleven with fourteen-inch guns, and four with twelve-inch guns. Our four old ships, armed with twelve-inch guns, are not fit to lie in the first line. Four of the Japanese ships are battle cruisers, very much faster than any of ours, but lacking the armor protection of battleships. The Japanese fleet speed is superior to the United States fleet.

2. The Japanese have built or are building double the number of modern cruisers that this country has. United States, ten (10); Japan, twenty-five (25).

3. The Japanese are markedly inferior in first-line destroyers to the United States. Their building program is correcting the present disparity, and, as pointed out before, two-thirds of our destroyers are laid up out of commission, and subject to the deterioration such a condition inevitably involves. United States (281); Japan (92).

4. Japan and the United States are approximately equal in airplane carriers in commission, each nation having one second line carrier.

5. The Japanese are inferior in numbers of first line submarines under 1,000 tons. United States (94); Japan (50).

In large modern submarines capable of operating for long periods at great distance from a base, the Japanese are markedly superior. United States (6); Japan (25).

Total First Line Submarines:

United States (100).

Japan (75).

6. In Aviation little definite information is available of the Japanese program. We do know a great effort is being made. Millions of dollars of equipment is being purchased abroad and a large corps of British, French and German instructors employed.

7. The Japanese maintain a very large regular Naval personnel compared to the United States. The figures are:

	Officers	Enlisted Men
United States .	7,707	86,000
Japan	7,705	65,469

To put our Navy on a personnel ratio of 5-3 with Japan would require an increase of:

	Officers	Enlisted Men
	5,138	23,000

8. The Japanese Naval Reserve is composed largely of men who are habitually engaged in seafaring pursuits. The United States Naval Reserve, as stated before, is composed largely of men employed primarily in shore pursuits. At present it is largely in a state of suspended animation, due to lack of appropriations to maintain it.

When we come to Naval and Commercial Bases, Britain still leads with no second. Her system of strategically placed, magnificently fortified strong places scattered all over the world is admirably designed to support and secure her commercial activities.

The United States has nothing to compare with Britain. We do own Hawaii, Wake Island, Guam and the Philippines, which, if properly developed, would have been of inestimable importance in securing our future trade with China and the Far East; particularly as Manila is potentially one of the best distributing points in the East.

The Naval Treaty negotiated at the Washington Conference prevents our adding to the present rudimentary fortifications and base facilities of Guam and the Philippines. This provision effectively prevents our securing our property in these places and our trade with China, Siberia, etc., by means other than moral suasion. It will have a profoundly depressing and retarding effect on the future development of the Philippines and, more important still, on the future development of our Far Eastern Trade. Hard-headed business men will be loath to embark large sums in enterprises in which their Government cannot back them up, should their rights be unjustly

jeopardized. This clause in the Naval Treaty is unsound, unwise and should not have been included in the treaty.

Consideration of the above comparison of our Seapower with that of Great Britain and Japan indicates that the United States is a second-class Seapower, and moreover, a second-class Seapower that more nearly approaches the third-class Seapower, Japan, than it does to the first-class Seapower, Great Britain.

So long as we remain a second-class Seapower, we remain a second-class Commercial Power.

We can never develop a foreign trade second to none other unless we secure that foreign trade with a Merchant Marine and a Navy second to none other.

We can never insure ourselves from violent dislocations of our economic fabric caused by wars in the world, even though they may not directly concern us, unless the outward and visible sign of our Seapower is so sturdy and secure that no conceivable belligerent or set of belligerents dare incur our displeasure by trifling with or jeopardizing the just rights and interests of our people.

Remember that Seapower is not aggressive and is primarily defensive.

It may be asked, what will it cost to become a first-class Seapower? Are

we not already groaning under a crushing load of taxes to maintain the Seapower we have?

The crushing burden of taxation, when closely examined, is a good deal less than many people suppose. Last year the average citizen of this country paid in taxes for the support of his town or city, county, state and of the general government a total of \$91.60. Of this amount 3 per cent or \$2.76, went to support his Navy. This is the crushing burden of taxation citizens are asked to bear on account of the Navy.

Another dollar per capita per year, wisely expended, would in from seven to ten years put us far on the road to a Seapower the equal of any other in the world.

Undeniably it is a great deal of money—about a billion of dollars spread over ten years—but it will be the best and most profitable investment this country or any other country ever made. Our citizens in the factory or on the farm will get it back in increased and secure prosperity an hundred fold.

If we don't spend it, the Republic won't fall in ruins—but there will be real and pressing demands from our people to explain their waning fortunes.

Increase In Automobiles

During March, 346,383 motor cars and motor trucks were manufactured. This is the largest month's production in the history of the business, as it exceeds by 57,000 the record of 289,011 made in June, 1922.

Reports of shipments made to the National Automobile Chamber of Commerce also showed that the production for the first three months of this year, reaching 867,628, is more than double the same period in 1922.

This confirms the belief that 1923 will be a three million year. It is not expected, however, that production will go ahead as rapidly during the remainder of the year. It is believed

that 3,000,000 is an outside figure for the 1923 output and this will depend on favorable conditions of the materials market.

Production facilities for the manufacture of closed bodies are inadequate to the demand and this is likely to prove a limiting factor.

The extraordinary sales of cars in the spring is expected to have its modifying influences toward a quieter condition after the first half of the year, although the popularity of closed cars has tended to stabilize the market for motor vehicles, creating an all-year demand. Closed car sales are averaging about fifty per cent of total.

RESERVE YOUR BANQUET SEATS EARLY

The Annual Banquet of the National Association of Manufacturers will be on Wednesday evening, May 16. Seats at tables are being assigned in the order in which the reservations are received. The best locations are going to those who make their reservations earliest.

Electricity And The Coal Supply

Industrial and public requirements of modern power systems for continuity of service, for business, health and safety demand at all times that sufficient and suitable fuel must be available

Written especially for AMERICAN INDUSTRIES

By JOHN W. LIEB

Vice-President New York Edison Company and Chairman, Joint Fuel Commission, Three National Utility Associations

IN order to fully understand the way in which the electrical industries have been affected by conditions in the coal industry it is necessary to review the position and importance of the utilities in the life of the nation and to show their intimate dependence upon an adequate, suitable and reliable coal supply.

As the electric and gas utilities have many similar coal problems and on account of their close inter-relationships, this presentation would be incomplete without some reference also to the relations of the gas industry to the coal problem of the nation.

At present nearly one-third of our industries are supplied by central electric power stations. The total number of consumers for lighting and power exceed 10,000,000 for 1922. Gas was supplied in 1921 to over 9,000,000 consumers. Street railways in 1922 carried over 15 billions of passengers.

Significant Utility Statistics Capital Invested:

Electric Light and Power, 1922....	\$5,100,000,000
Electric Street Railways, 1917	5,699,000,000
Gas Industry, 1922	4,000,000,000
Number of Employees:	
Electric Light and Power, 1922 ...	150,000
Electric Railways, 1917	294,826
Gas Companies, 1921	73,000

The magnitude of the utilities may be realized by comparing their 15 billion dollars of capitalization, with the valuation of all of the (Class One) railroads of the United States, estimated at approximately 20 billions of dollars.

The Department of Commerce has recently announced that according to reports made to the Bureau of the Census, the value of manufactured products of establishments engaged in the manufacture of electrical machinery, apparatus, and supplies amounted in 1921 to \$833,936,000 and in addition, electrical products to the value of over \$49,000,000 were in 1921 reported to the census by establishments classified in other industries. Some recent figures compiled by those engaged in

merchandising these various products would indicate that the retail value of the sales of electrical merchandise equipment appliances and supplies,



John W. Lieb

with labor charges, reached in 1922 the enormous total of nearly one and three-quarter billions of dollars. These electrical manufacturing industries gave employment to over 187,000 wage earners.

The essential importance of the utilities to the public welfare is also indicated by the importance and variety of useful service they render. Electric and gas lights are essential to the policing of our great cities. Fire protection, water supply, telegraph and telephone service and vertical transportation are all largely dependent for their operation on central station service. The industrial uses to which electricity is now put are legion, while those of gas alone have multiplied to cover over 1,200 operations.

The utilities through their economical operation and low cost of energy are making possible the supply of greater and greater amounts of power for industrial workers, and paralleling this increase, workmen are able to produce a greater value per worker through increased output.

Though the output per workman is undoubtedly influenced by many fac-

tors this increase in the application of mechanical power as a substitute for manual labor is undoubtedly a cause of the rapidly increasing wealth of the country and the emancipation of workers from drudgery and heavy labor. Largely through supply of adequate power deftly applied by American genius will this country in the coming years be able to hold her leading place in the markets of the world and still maintain for its workers the high plane of American living conditions.

The United States outstrips the world in the total consumption of electrical energy—using about half of all the power produced and she far exceeds her principal competitors as seen by the following figures:

Kilowatts Consumed per Capita	
United States	472
United Kingdom and Ireland..	163
France	147
Germany	141
Italy	85

The services of the utilities have become so essential to our industrial and civic life that should the gas and electric plants of a great city fail to function, an inconceivable catastrophe would result. The public requires that the utilities maintain the continuity of service as a necessity to its health, safety and comfort and demands that the utilities keep in constant readiness the equipment and facilities to carry whatever load may be forced upon them, no matter how high or unexpected the demand or how adverse the circumstances. In order to do this it is evident that there must be available at all times adequate quantities of suitable fuel. During the past few years adequate supplies of coal of this character have not at all times been available. The public utility, gas or electric, must function, and coal is the raw material upon which its service usually depends. For the public good it should, therefore, be placed beyond any danger of failure to obtain adequate quantities of proper fuel.

During the past few years, the gas and electric utilities have had great difficulty in securing coal of the proper quality and in the amounts needed. The supply was unreliable, the principal causes being strikes, car short-

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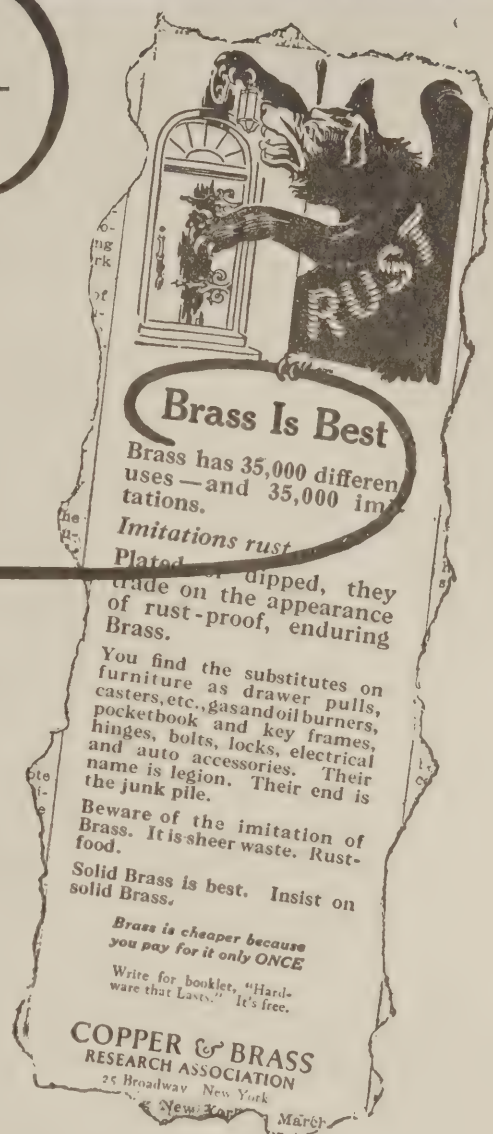
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ages and failures of transportation, due to congestion of equipment, resulting embargoes, etc. The difficulties of maintaining constant service and the high coal costs thrown on the utilities were so great that a review of the situation of the coal industry seems desirable at this point.

Unless otherwise specified bituminous coal is referred to the problems affecting anthracite coal though at present critically acute, concern directly the service of only a small number of utilities.

The electric utilities used in 1922, 34,000,000 tons of anthracite and bituminous coal.

Of the 31.6% consumed for all industrial uses, isolated power plants consume about two-thirds, or about 20% of the total coal mined. Comparing this consumption with that of the utilities, amounting to only 5.7% of the total, indicates the high fuel economy of the utilities when the relative outputs of electrical energy are compared; data collected in an exhaustive study covering a number of states, demonstrated that the electrical utilities generated annually more energy than the aggregate produced by isolated industrial plants.

A vast change has occurred since 1910 in the mining industry by an excessively rapid development of mine operation as shown below:

Growth in Number of Mines		
	Number of Mines	Tons of Coal Produced
Producing individual mines in operation, 1910	5,818	416,000,000
Producing individual mines in operation, 1918	11,038	580,000,000
Producing individual mines in operation, 1920	14,766	569,000,000
	Inc. 154%	Inc. 37%

This increase of 154% in the number of mines in operation in 1920 compared with 1910 represents an increase in annual capacity to over eight hundred million tons, while the actual demand reaches only from five to six hundred million. This great excess development of new mines as compared with output has seriously interfered with healthy conditions in the coal business. The resultant irregularity of production has been great. The average annual output per mine decreased from 71,550 tons in 1910 to 38,512 tons in 1920. This would of course involve a serious increase in overhead cost per ton for much of the coal produced. Under any conditions, the irregularly employed men of the coal regions, plus the extra expense of non-steady production at the mines is reflected in the excessive prices of

coal, which have to be borne by the ultimate consumer.

To these undesirable conditions must be added the even more serious injuries which have resulted from both mine and railroad strikes during the past few years. As it is well known, these great disturbances in the coal industry have caused prices to fluctuate enormously. The following figures give the average prices at the mines for 1920, 1921, and 1922, and also the average prices during the high and low months of each of those years.

Fluctuation of Average Monthly Bituminous Mine Coal Prices		
	Average Cost at the Mine	Percentage.
The year 1913...	\$1.23	100% avg.
1920		
High—August .	9.51	773
Average	5.64	458
Low—January .	2.57	209
1921		
High—January	3.26	265
Average	2.56	208
Low—December	2.26	184
1922		
High—August..	5.92	481
Average	3.63	295
Low—March ..	2.12	172

These figures do not represent maximum and minimum daily swings to the highest and lowest points, but by comparison with 1921 show the effects of the two years 1920 and 1922 when serious disturbances occurred—effects which caused losses of millions of dollars to consumers. We have not yet recovered from the results of the last disturbances and are still paying abnormally high prices, as has been the case since early in the summer of 1922.

The annual coal bills paid by the public of the United States are significant.

	Consumption tons	Estimated Price
1913 ...	478,000,000	\$565,000,000
1920 ...	567,000,000	1,200,000,000
Excess paid in 1920 over 1913		528,000,000
Increase		128%

While the pre-war rate for bituminous coal at the mines was as low as \$1.25 and \$1.50 a ton, during the period of maximum scarcity, it was necessary for some utilities in order to keep their plants in operation to supplement the utterly inadequate deliveries made under their regular yearly contracts to go into the "spot" market and pick up odd lots of coal for which they paid as high as \$14 and \$15 a ton.

The utilities are in a sense, agents of the public, and must not only provide continuous service, but they hold a distinct responsibility to maintain that service at most economical rates.

They are, however, peculiarly vulnerable to the injuries which result from coal crises. First, because they are strictly controlled by the regulatory authorities as to the rates they may receive for their products, and second because coal constitutes the absolutely essential and most costly raw material necessary in their processes of manufacture.

Quite uniformly over the United States, public utilities are regulated by Public Service Commissions set up by the several states. They are, therefore, except in a few instances, unable to readily adjust their charges to the cost of coal, and thus are at a disadvantage when competing for coal with industrial consumers.

The experience of the utilities has proven beyond question, that coal contracts are, as a rule, of little value in providing coal during times of extreme emergency unless protected by priority orders issued and policed under government authority.

One of the serious difficulties has been due to the fact that when there is a shortage of coal or of coal cars, the supply the utilities receive on their annual contracts is usually pro-rated proportionately with other consumers, some of whom may be only "spot" purchasers.

During periods of stress, coal is usually difficult to obtain; heat value, ash content, volatile constituent and delivery clauses in contracts are not accepted by operators—they can ordinarily sell their coal at these times without the restrictions imposed by such clauses—and changes in the attitude of mine workers and railroad conditions, have often made it impracticable for them to accept reasonable specifications.

The result of all this has been that "spot" coal purchased to cover contract shortages resulting from these conditions has been exorbitantly high in price and most unsatisfactory in quality.

It would seem to be practicable and altogether reasonable that consumers of coal engaged in rendering a service affecting a vital public interest and making annual contracts covering their requirements should receive preferential treatment in deliveries in times of coal shortage by placing them in a class by themselves, not requiring them to share in reduced deliveries with unessential industries, and who may make their purchases only as the opportunity affords.

To the electric utilities the question of quality of coal is a particularly serious one. In large electric power plants the kind of fuel which is useable is dependent in large measure upon the design of boilers, stokers,

ash handling equipment, etc. Utility plants are designed and located with a view to obtaining the right quality as well as an adequate quantity of fuel, and when the coal is not of the character for which the plant was specifically designed serious difficulties result in the form of deteriorated equipment, reduced output, or possibly even complete shutdown.

It is important to obtain coal complying with a specific analysis from another point of view—the availability of coal for shortage. Some coals, while they may be satisfactory in other respects, are unavailable for storage in considerable piles, such as becomes necessary where large quantities are involved, owing to the danger of spontaneous combustion. When we have been compelled to accept unsuitable coals we have frequently had two or three fires going in our coal piles, necessitating a rehandling and restacking of the coal with a serious loss due to coking. Owing to the high temperatures attained it is also difficult to transfer such coal into barges, the bottoms often burning through, resulting in a complete loss of the coal as well as the barge. Coal which is liable to spontaneous combustion also causes serious difficulties when deposited in the relay bunkers of the power house

situated immediately above the boilers in the very center of the power houses where a fire is most difficult to handle.

The President's Fact Finding Commission has been conducting extensive inquiries to get at the facts underlying the difficulties of the coal situation. Their problem is an exceedingly difficult and complex one, involving as it does, both the coal industry and the transportation facilities in both of which labor problems are most acute. The committee is made up of men of the very highest type and constructive recommendations will no doubt be forthcoming as a result of their searching investigations.

Various remedies have already been suggested for stabilizing the coal business, though as yet the Commission has not been convinced that a proper solution has been proposed.

One important group of those interested, advocate in essence, that the situation be allowed to work itself out without external governmental or other interference. They claim that the recent difficulties are an aftermath resulting from extreme war conditions, and that these will rectify themselves with time. The second suggestion is that the government itself purchase and operate the mines. This plan, though vigorously and continuously promoted by a group of the

more radically inclined has been quite universally condemned by the public on the ground that government ownership and operation has not proven either efficient or economical and experience with the railroads under government management has not been such as to encourage further experimentation in that direction.

It is more or less self-evident that under government operation at least a large proportion of the mine officials, and probably workmen, would hold their positions not primarily upon merit, but in many cases also because of their individual political affiliations and influences.

It has usually been found that the public is better served and better protected under the operation of the natural laws of business than through governmental interference and political control.

Of the methods for ameliorating fluctuating conditions in the coal industry, the provision of storage facilities seems to offer exceptional advantages.

The utilities for self-protection early inaugurated the policy of maintaining generous reserves by storage of coal at their plants. Indeed, they have been a leader in this regard, and through wise buying and handling of these storages have proven to be a



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helpful stabilizer to the coal industry. The large amounts of coal they put in storage prior to the beginning of the great coal strike on April 1st, 1922, was a material element in saving the country from a catastrophe of large dimensions.

Larger storage capacities for all coal users, to be filled at times during the year when transportation facilities are best available, would do much to remedy the present unsatisfactory fuel conditions. The railroads themselves, should, in as great measure as possible, haul and store the coal for their own needs during periods when their facilities are not pressed by peak loads. They use approximately a third of the bituminous coal consumed and thus they are in an excellent position to aid to a much greater extent than has been the case in the past in stabilizing both the coal industry and their own operation, through such methods.

Further, the mines can in a certain measure promote storage which would prevent the irregular daily production outputs from the mines, caused by fluctuations in daily car supply. In many locations, a coal pocket holding from one to two days' output of the mine, may be installed at a moderate expense and so arranged as to receive the coal directly from the tippie and discharge directly into the railroad cars with very little additional equipment and no additional handling. Such a storage should enable the mine to run continuously at least five days per week and the slight additional cost would be largely overbalanced by improved showing in the overhead per ton of coal produced. The overhead expenses go on while the mine is idle, and they amount to nearly 40% of the total cost of the coal on the car. Those mines which have installed storage of this kind find that under most conditions the car supply is equalized and that definite advantages result from the practice.

The project of pumping coal through a pipe line has been considered by many engineers and its feasibility has been shown, at least theoretically. The cost and design of the apparatus is well known and no extraordinary engineering difficulties are encountered in its operation.

A proportion of 50% by volume between conveyed material and water can be maintained. At ten feet per second, which is not excessive, a 14-inch pipe will carry over 7,000,000 tons of coal per year and this delivery is independent of the length of the pipe.

At the present time it is estimated that the cost of delivering a ton of coal, including fixed charges, from Scranton to the New Jersey side of the Hudson would probably not ex-

ceed fifty cents per ton, to which would have to be added the ordinary charges for lighterage and handling in the Port of New York. It is also probable that bituminous coal could be pumped from either the Broadtop or Clearfield region with equal facility, but at an increased cost of say \$1.25 per ton, although this increase would be well within the present freight charges. It has been estimated that approximately 18,000,000 to 20,000,000 tons of coal pass through New York City every year which would absorb the capacity of three 14-inch pipes.

An advantage of all stabilization methods is that it will tend to furnish more continuous employment to miners, and thus improve the economic and social conditions of the mine workers. It has been asserted that much of the labor discontent and difficulty at the mines has come through irregular employment and an excessive amount of enforced idleness. Though much of this has resulted through the seasonal character of the business, which can be in large measure corrected, yet it is asserted on the contrary that the miners themselves have frequently been the cause of idleness through refusal to work steadily throughout the full week.

America is noteworthy for her extravagance in the use of coal. Efforts toward conserving this vitally important natural resource are wise for the protection of the future of the country, and are also in a direction which tends to relieve the strain of heavy coal transportation. The utilities can be of exceptional service in aiding to accomplish this result.

The electric and gas utilities offer an exceptionally effective medium for simplifying the transportation and distribution of coal. Though this phase of the coal distribution problem is seldom discussed, it nevertheless is one of great and growing importance.

In the power zone heretofore referred are to be found something over 76,000 industrial plants which use power. Five or six thousand of these use water power as their prime mover, but the great bulk are operated by power generated from steam. If these 70,000 establishments all obtained coal for generating their own power, large fuel shipments would have to be sent to 70,000 points, requiring the time of locomotive and car equipment, and would involve a material increase in shifting, and switching.

However, as about one-third of the power required by these 70,000 plants is supplied by central power stations, the amount of this detailed coal distribution and local delivery is materially reduced as this power is generated from coal delivered at a few conven-

iently located central stations which have available the best modern coal handling apparatus and commodious storages. Thus to-day, a very material measure of relief has already been afforded the railroads through this centralization of coal delivery. If the transfer of the industrial plants of the country is continued, eventually the great bulk of coal required for the industrial power will be delivered to a few super-power plants of great interconnected super-power systems.

It is evident that the public utilities hold forth wonderful opportunities for advancing the welfare of the nation through the conservation of coal and oil, simplifying the distribution of fuel, contributing to its conservation by the utilization of water power, and providing a supply of abundant, reliable and cheap power to our industries.

In order that their full value may become available to the nation, great systems covering large areas, and supplying great loads will be necessary. To accomplish this purpose the utilities must continually expand, ever developing larger and more extended systems. This development is one of state-wide importance and such public regulation as is needed should be of a state-wide character. Systems of this kind already include scores and hundreds of municipalities within necessarily must be operated as a unit; it is impossible for them to develop or give good service to the public if they are subject to the harassing interferences of all of the municipal or minor political establishments through which they may extend and in which they operate. Nor will such a consummation as the public desires and the companies wish to provide be possible unless state-wide regulation of a broad and equitable character is maintained and the laws and rulings governing the utilities are of a helpful and stable character and such as to attract the large quotas of capital which it is necessary to obtain each year to provide for the rapid extension of the public utilities in order that they may serve the public adequately, efficiently and economically.

WAGE TREND UPWARD

The latest survey of wage changes in industrial establishments by the National Industrial Conference Board shows an unprecedented number of wage increases in the month from March 15 to April 15.

There were no reductions reported in this month, and the number of increases far exceeded the aggregate reported in the preceding six months.

This sudden upward movement of wages, the board says, is not to be explained wholly by labor shortage.

"A Lesson."—

During the recent world conflict there were two competing forces. Each had an executive in supreme command, who in turn had his staff of officers. Strategists and outside eminent authorities were invited to sit in council of either combatant. Plans were carefully worked out for both an offensive and defensive action. A drive was launched and progressed satisfactorily for a while, then of a sudden something happened to slow up the enterprise. A certain sector failed to make scheduled gains. It was pertinent to success... that the commanding executive have quick and positive knowledge as to the source and character of that deterring agency. Special scouts were dispatched to the troubled zone to make field investigations and report. The reports disclosed the necessary information, and the supreme executive changed his plans to meet the new conditions. The drive regained momentum and another victory was won.

Frank M. Bertrand

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FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

ARGENTINA

Raw materials of all kinds used in the manufacture of felt hats are of interest to a firm of manufacturers' representatives in Argentina. Correspondence in Spanish. (769)

PERU

Silk ribbons in all widths, also with picot edging are of interest to a manufacturers' agent in Peru. Correspondence in Spanish. (770)

COLOMBIA

Jewelry for Colombia. An importer and dealer in optical goods desires to open connections with American makers of jewelry accustomed to dealing with South America. Correspondence in Spanish. (771)

Table glassware, cut, decorated and plain is of interest to a manufacturers' agent in Colombia. (772)

Textiles of all kinds, jewelry, drugs and medicines, toys, electrical apparatus, office supplies, stationery and toilet articles. The inquirer desires to secure American agencies for Colombia, stating that he makes a trip through the country once a year and advertises in the daily press. (773)

VENEZUELA

Hosiery for men, women and children; leather for shoes; general drugs and chemicals; suitings, dress goods and fashion goods generally; shoemakers' findings, toys, garters, silk textiles, thread, face cloths; hams, lard, flour and confectionery. The inquirer desires to secure American agencies for Venezuela on a commission basis. Correspondence in Spanish. (774)

COSTA RICA

Groceries, provisions, hardware, general dry goods, medicines and drugs for Costa Rica. The inquirers desire American agencies in the above. (775)

GUATEMALA

General hardware, carpenters', blacksmiths', masons' and mechanics' tools, leather belting, machinery generally, oils and greases, and paints and varnishes. A manufacturers' representative desires American agencies in the above lines for Central America. Correspondence in Spanish. (776)

CUBA

Common window glass and colored glass for sky lights is of interest to an importer in Havana. Correspondence in Spanish. (777)

Stearic acid, paraffine wax and chemicals of all kinds used in the manufacture of wax matches, candles and toilet and laundry soaps; also paper and cardboard in general. The inquirer desires to secure American agency connections for Cuba. (778)

Technical and industrial chemicals, caustic soda, muriatic and sulphuric acids, salts of all kinds, disinfectants, insecticides, rosin, turpentine, creoline, animal, vegetable and fish oils, greases and lubricants, tar, pitch, varnishes and shellac, waxes, talcum, glues and adhesives, ammonia, chloride of lime, phosphoric and acetic acid, caustic potash and light soda ash. A firm of merchants and manufacturers' agents specializing in the chemical lines, desire to secure American connections in the above for Cuba. (779)

Smokers' supplies of all kinds, novelties, china and glassware, underwear and hosiery, games and toys, paper and stationery supplies and similar lines. The inquirer desires to secure American agency connections for Cuba. (780)

Lard, bacon, ham and packing house products for Cuba are of interest to a firm of manufacturers' agents in that market. (781)

MEXICO

Garbage burning furnaces and equipment are of interest to a firm of engineers in Mexico City. (782)

Machinery apparatus and supplies for the manufacture of polishes and greases for shoes; also for the manufacture of writing inks. A firm of merchants in Mexico desires information on the above lines. (783)

Paper for printing, for making envelopes, writing paper and similar lines; food products of all kinds. A firm of manufacturers' agents desire to secure American representations in the above lines for Mexico. Correspondence in Spanish. (784)

AZORES

Sugar is of interest to a merchant in the Azores, who desires to hear from American manufacturers. Correspondence in Portuguese. (785)

ENGLAND

Textiles, canned goods, crockery, and allied lines are of interest to a firm of merchants and manufacturers' agents in England. (786)

SPAIN

Hardware of all kinds is of interest to a manufacturers' agent in Spain. Correspondence in Spanish. (787)

Filing machines for matrixes and files for same; vertical and horizontal planes for planing steel and small milling machines. The inquirers desire to secure catalogs and prices on the above goods. Correspondence in Spanish. (788)

Cocoanut graters for confectioners, also cocoanut grating apparatus to be used for manufacturing on a large scale, is of interest to a firm of merchants and agents in Spain. Correspondence in Spanish. (789)

Builders' hardware, paints, varnishes, building paper, kitchen utensils, hosiery and underwear, sheetings and shirtings, notions, haberdashery, umbrellas and cushions, trunks and traveling supplies and toys and games are of interest to a merchant in Spain. Correspondence in Spanish. (790)

ITALY

Tin strips for the manufacture of cans for Italy. The inquirer states that he would be interested in the above to the amount of 3,000 metric tons per year. (791)

Type for printing, printing machinery, and office supplies are of interest to a merchant and manufacturer in Italy. Correspondence in Italian or French. (792)

FRANCE

Rye and barley flour for France. Manufacturers and shippers interested in the French market are requested to communicate with a firm of flour merchants. (793)

GREECE

Sugar, flour, oleo oil, glucose and rice are of interest to a firm of merchants in Greece. (794)

GERMANY

Metal ores, metals, scraps and metal-residuums of all kinds for smelting purposes. Payment with irrevocable L/C against shipping papers in this country. A firm in Germany states that a large continuous business can be done in the above. (795)

HOLLAND

Molasses, sirup, sugar, honey and allied lines are of interest to manufacturers' agent in Holland, who desires American agency connections. (796)

MOROCCO

Petroleum, gasoline and oil for automobiles; lumber and building materials, aniline colors, tires and accessories for automobiles, including solid tires for trucks, are of interest to a merchant in Morocco. (797)

ALGERIA

Semi-liquid pitch derived from tar, for use in briquetting coal is of interest to a manufacturer of briquettes in Algeria. Correspondence in French. (798)

EGYPT

Leather of all kinds is of interest to a merchant in Egypt who desires to hear from leather manufacturers and exporters. (799)

MESOPOTAMIA

Accessories for Ford and Overland cars are of interest to a firm of dealers in automobile accessories in Bagdad. (800)

INDIA

Household hardware, cutlery, bicycles, paints, oils and varnishes, rope and twine, engines, boilers, pumps, metal and woodworking machinery, milling, textile and printers' machinery, factory supplies, electrical machinery and supplies, mowers and reapers, plows and cultivators, sugar and rice machinery, vehicles, carpets and rugs, lamps, stoves, office furniture and supplies, jewelry and watches, pat-

ent medicines and toilet articles for India. The inquirer desires to secure American agency connection in the above lines. (801)

Electrical supplies, dyes, colors, textiles, perfumery. A firm of commission merchants in India desires American agency connections. (802)

Provisions, oils, patent medicines and cigarettes for India. The inquirers desire to hear from firms accustomed to doing trade with India with catalogs and prices. (803)

Fancy decorated tin packages for holding small ointment bottles are of interest to a firm of chemical and perfumery manufacturers in Bombay. (804)

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Foreign Agents' Difficulties

"**M**ET Bob Elliott in New York yesterday," said an export manager to his friend.

"Yes; back on a visit?" queried the friend.

"No, back for good."

"Why, I thought he was settled abroad—had a good thing," said the other.

"He did have a good thing; was the most successful foreign salesman sent abroad by his company, and you know his company is the biggest one in its line in the country. He had his choice of having his headquarters in the chief city of the continent, and, as you know, his salary there would have been much more than that of his old associates back in the home office," stated the export manager.

"Well, what brings him back now?" questioned the other.

"Oh, the same old story of the American married man abroad—education of the children. You know he has three kids and they are growing fast. Both he and the mother were anxious that the children should have all the benefits of an American education, and did not want to send them back home in the care of strangers."

The above conversation explains one of several reasons why it is so difficult to obtain the services of native Americans to represent American American business houses abroad for long periods. Many an enthusiastic young American seeks the opportunity of serving his country or his firm in the foreign field, who, as a single man, may be willing to hold foreign posts indefinitely, but as a man of family desirous of fitting his children for American careers or placing them in a position to take full advantage of the opportunities of the home land, has felt it necessary to choose between holding his post and separation from the family, or of giving up his position and seeking employment in the United States.

This matter of education does not necessarily mean there are not excellent schools in many of the foreign lands where American business men are settled, but simply that education in foreign schools tends to weaken the patriotic and social ties which American schools cultivate.

Moreover, it is desirable also that foreigners or aliens in any civilized country should patronize, as far as practicable, the scholastic institutions of that country in order that they themselves and their children may have a sympathetic understanding of the history, character and social environ-

ment of the people among whom they live.

At the same time, the alien, whose duty to his principals or whose personal business interests require his sojourn for a number of years in a foreign land, owes to his children a choice between making their career in their home land or in the country where the parent happens to be. In order to do this effectively, it is necessary that they should have the advantage of pursuing their studies along lines which will make them familiar with the history and opportunities of their own country, and place them in a position to secure positions at home without unnecessary handicaps.

For these reasons, an excellent American school has long been maintained in the City of Mexico for the education of American children in that country and for the training of Mexican children in the understanding of American ideals. This institution is not considered a reflection on the native schools, as the latter compare favorably with the schools in the large cities of the United States. The American Chamber of Commerce in Mexico has taken a great interest in

SPAIN

General importer and manufacturers' representative wants to hear from Manufacturers (not jobbers) of greases, lubricants and oils; paints and varnishes; hard rubber goods such as combs, etc.; cutlery including safety razors; hardware; tools, mechanical and carpenters'; office appliances; electrical supplies; motors and dynamos; rubber goods; farm implements; lightweight motorcycles; kitchen ware, aluminum, porcelain, granite and enamel; hosiery; washable ribbons.

This importer pays cash for salable goods. Offers need not come from others than Manufacturers who are enough interested in the above market and in position to adjust prices so as to meet European quotations.

Address to D. B. L., c/o American Industries.

ARGENTINE and URUGUAY

Representation for the Argentine and Uruguay of reliable American manufacturers of goods sold to hardware and paint trade (except paint and varnishes) solicited by a man of experience, already representing SAPOLIN Decorative Specialties.

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F. Alvarez de Toledo, Pasa-je Belgrano 15, Buenos Aires.

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South Africa

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Reference: The National Bank of South Africa, Ltd.

Correspondence invited

this school since its establishment, and in a letter to the National Association of Manufacturers the secretary of that Chamber calls attention to the fact that—

“The American colony in the City of Mexico is financially not so strong as some of the other colonies of foreigners; and so, up to last year, the French, the Spanish and the German colonies all had better equipped educational systems than we Americans had. We had a school which was founded in 1905, but it was in a rented house not built for school purposes, and in an inconvenient part of the City, with facilities most inadequate. The educational work done under these conditions could not be efficient.

“Last year the American colony decided to erect a suitable building for the school; and enough subscriptions and pledges were obtained to justify the beginning of the work. The men and women of the colony made the American School the first thought in their minds during the whole of last year, and devoted themselves to the collection of money for it by one drive after another in the colony while the building was going up.

“The building was completed in September of last year, and the school is now in operation with five hundred and fifty pupils, which number will be increased to seven hundred and fifty when the next term opens.

“The value of the grounds is	125,000.00 Pesos
The value of the building is	250,000.00 “
The present equipment is worth...	25,000.00 “

Total400,000.00 Pesos
(or about \$200,000.00 dollars).

“Subscriptions and collections made among members of the American colony, and American business concerns in Mexico, up to Jan. 1st, 1923	218,746.89 Pesos
Collections and in bank Feb. 1st, 1923	10,383.78 “
Not yet collected..	15,225.00 “

Total 244,355.67 Pesos

“Leaving 155,644.33 Pesos to be raised to pay off the total indebtedness.

“You see that the American colony has given all of this amount except 155,644.33 Pesos (or about \$78,000.00 dollars U. S. currency) which is a pressing debt on the school and must be paid in order to protect the property and to assure its ownership to

the American School Foundation. The American Chamber of Commerce has given 2,500 Pesos, besides its active support and help in the drives through its office staff. The Rotary Club of the City of Mexico has given 3,000 Pesos. Every American here has given according to his means, and liberally, during a year when ready money has been exceptionally scarce in this country.

“The purpose of this American Chamber of Commerce of Mexico is to protect and develop American business interests in Mexico. We are now appealing to the Chambers of Commerce in the United States, whose members we know are interested in Mexico, to help protect this American school in Mexico. The work of this school greatly strengthens American influence in this country and develops American trade; and so we feel that we are justified in asking the strong Chambers of Commerce in the United States to share with the American colony in Mexico, most of them representatives of American business houses in the United States, the responsibility of setting this American School Foundation firmly on its feet.

“Many American manufacturers have their own representative, or

Production and Sales Engineer

recently sales organizer and advisor for United States Navy and Army; graduate of Yale in Mechanical and Electrical Engineering, would like to enter large organization requiring competent and ambitious sales and advertising manager or assistant to chief executive where there is room for mutual expansion. Address, Engineer,

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Foreign Directories FOR SALE

1. The United Transvaal Directory for 1921. Comprising complete directories of Johannesburg and Pretoria and all towns in the Transvaal. Containing also a directory of Transvaal Farmers, giving their farm names and postal addresses; Coastal Section, embodying a directory of Lourenco Marques; also sectional directories, etc., giving a large amount of varied and generally useful information. Original cost \$12.00. Selling price \$3.00, without postage.
2. "Compass," General Business Directory of Germany, Austria, Czechoslovakia, Poland, Hungary and Yugoslavia, in three volumes, for 1922. Printed in German. Original cost \$5.50. Selling price \$2.00, without postage.
3. "Compass," for 1921, same as above. Original cost \$4.50. Selling price \$1.50, without postage.
4. Post Office London Directory with County Suburbs for 1922, comprising, amongst other information, official, streets, law, private residents, parliamentary, postal, city, municipal, clerical, conveyance, banking, commercial and trades directories, together with sections relating to the county suburbs. Also contains maps, and full details on commercial stamp duties, chambers of commerce, etc. Original cost, \$25.00. Selling price \$10.00, without postage.
5. Australia—Queensland Post Office Directory for 1920-1921, including Port Moresby, Papua (New Guinea) and Darwin, Northern Territory. Contains street directories of Brisbane, Bundaberg, Charters Towers, Ipswich, Maryborough, Toowoomba, Rockhampton, and Townsville. 1500 separate alphabetical directories of townships, boroughs, and districts. An alphabetical directory and a trade directory for all of Queensland. Original cost \$12.00. Selling price \$2.50, without postage.
6. Holland. Complete alphabetical and business directory of Holland, in two volumes. 1920 edition. Original cost \$9.70. Selling price \$2.00, without postage.
7. Directory of Spain for 1921 in two volumes. Contains complete alphabetical and business as well as street directories of all of Spain. Printed in Spanish. Original cost \$12.00. Selling price \$2.50, without postage.
8. Argentina. General directory of Argentina, in two volumes, with alphabetical and street guides, also separate headings for business, industries, professions, etc. 1920 edition. Printed in Spanish. Original cost \$14.00. Selling price \$4.00, without postage.
9. France. "Didot-Bottin" 1921 Directory of Paris in two volumes. Alphabetical and street directory, also directory of merchants, manufacturers, agents, professions, etc., under proper headings. Printed in French. Selling price \$3.00, without postage.
10. Directory of Belgium for 1912. Complete with separate headings for the various trades, industries, etc. Also alphabetical index and maps. Printed in French. Selling price \$1.00, without postage.
11. Ryland's Coal, Iron, Steel, Tin Plate, Metal, Engineering and Allied Trades' Directory of England with brands and trade marks for 1920. Original cost \$100. Selling price \$2.50, without postage.
12. The "Electrician" Directory and Handbook of the Electrical Engineering and Allied Trades for 1919 of England and Colonies. Selling price \$1.50, without postage.
13. The "Electrician" Tables of Electricity Undertakings for 1920, containing particulars of supply in the United Kingdom, the colonies and Foreign Countries. Selling price \$1.00, without postage.

ADDRESS: FOREIGN DEPARTMENT

National Association of Manufacturers
50 Church Street, New York City

branch office, in Mexico, and the number of these is steadily increasing. One of the greatest objections of responsible men with families in the United States to living in a foreign country, is the difficulty of securing suitable primary and high school education for their children. One of the first questions these men ask when they are assigned to a foreign country by their companies is: 'Is there a good American school where my children may be educated?' If the answer is in the affirmative it will be much easier for American firms to secure capable and reliable representatives abroad. The American School in Mexico City provides first class educational facilities in the primary and high school grades."

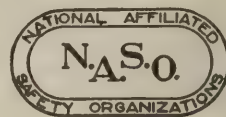
An enterprise of this character deserves sympathetic consideration and substantial recognition on the part of manufacturers desirous of promoting the development of American foreign trade and extending American influence abroad.

TO DISCUSS FOREIGN TRADE

For the purpose of developing greater interest in foreign trade, as well as to encourage the shipment of goods through New England, prominent business men, under the auspices of the Boston Chamber of Commerce, are now arranging details for a big New England foreign trade convention to be held in Boston May 17, 18 and 19.

The program, now in tentative form, calls for sessions Thursday, May 17, in the lecture hall at the Boston Public Library, and at the Copley-Plaza, Friday, May 18. Mr. Sagendorph will be convention chairman, and the address of welcome will be made by Frederic S. Snyder, president of the Boston Chamber of Commerce. Other speakers on the first day, it is expected, will include Mayor Curley, Col. Gow, Ernest B. Filsinger of New York, W. W. Lufkin, collector of customs, Mr. Elwell, Gov. W. P. G. Harding of the Federal Reserve Bank, Dean Wallace B. Donham of the Harvard Graduate School of Business Administration, and Lynn W. Meekins of the United States Bureau of Foreign and Domestic Commerce.

The speakers on the second day, it is expected, will include Mr. Dewey, Dr. Julius Klein, director of the United States Bureau of Foreign and Domestic Commerce, regional chiefs of the Federal Bureau, Mr. Hubbard and Mr. Gardner. Saturday morning, May 19, will be devoted to visits to manufacturing plants, banks, etc. Friday night also there will be a round-table smoker, with Mr. Wyman as chairman, at which veterans will talk over their problems and the technique of exporting.



Safety Devices

Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

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Shaft Protectors—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

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Statement of the Ownership, Management, Circulation, etc., of American Industries

required by the Act of Congress of August 24, 1912.

Published monthly at New York, N. Y.

COUNTY OF NEW YORK,)
STATE OF NEW YORK,) ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared D. M. Edwards, who, having been duly sworn according to law, deposes and says that he is the editor and manager of the AMERICAN INDUSTRIES, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers, are:

Publisher, NATIONAL MANUFACTURERS' COMPANY, 50 Church Street, New York, N. Y.

Editor, D. M. EDWARDS, 50 Church Street, New York, N. Y.

Managing Editor, D. M. EDWARDS, 50 Church Street, New York, N. Y.

Business Manager, D. M. EDWARDS, 50 Church Street, New York, N. Y.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) National Manufacturers' Co. (National Association of Manufacturers, a New York membership corporation, having approximately 6,000 members, the officers of which are: John E. Edgerton, President, Nashville, Tenn.; Geo. S. Boudinot, Secretary, 50 Church St., New York, N. Y.; Henry Abbott, Treasurer, 50 Church St., New York, N. Y.; own all capital stock, \$1,500).

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a *bona fide* owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

D. M. EDWARDS, *Editor and Manager*.

Sworn to and subscribed before me this 15th day of March, 1923.

LAURA E. SMITH,
Notary Public, Kings County, No. 486.
Certificate filed in New York County, No. 117.
New York County Register's No. 3153.
(My commission expires March 30, 1923.)

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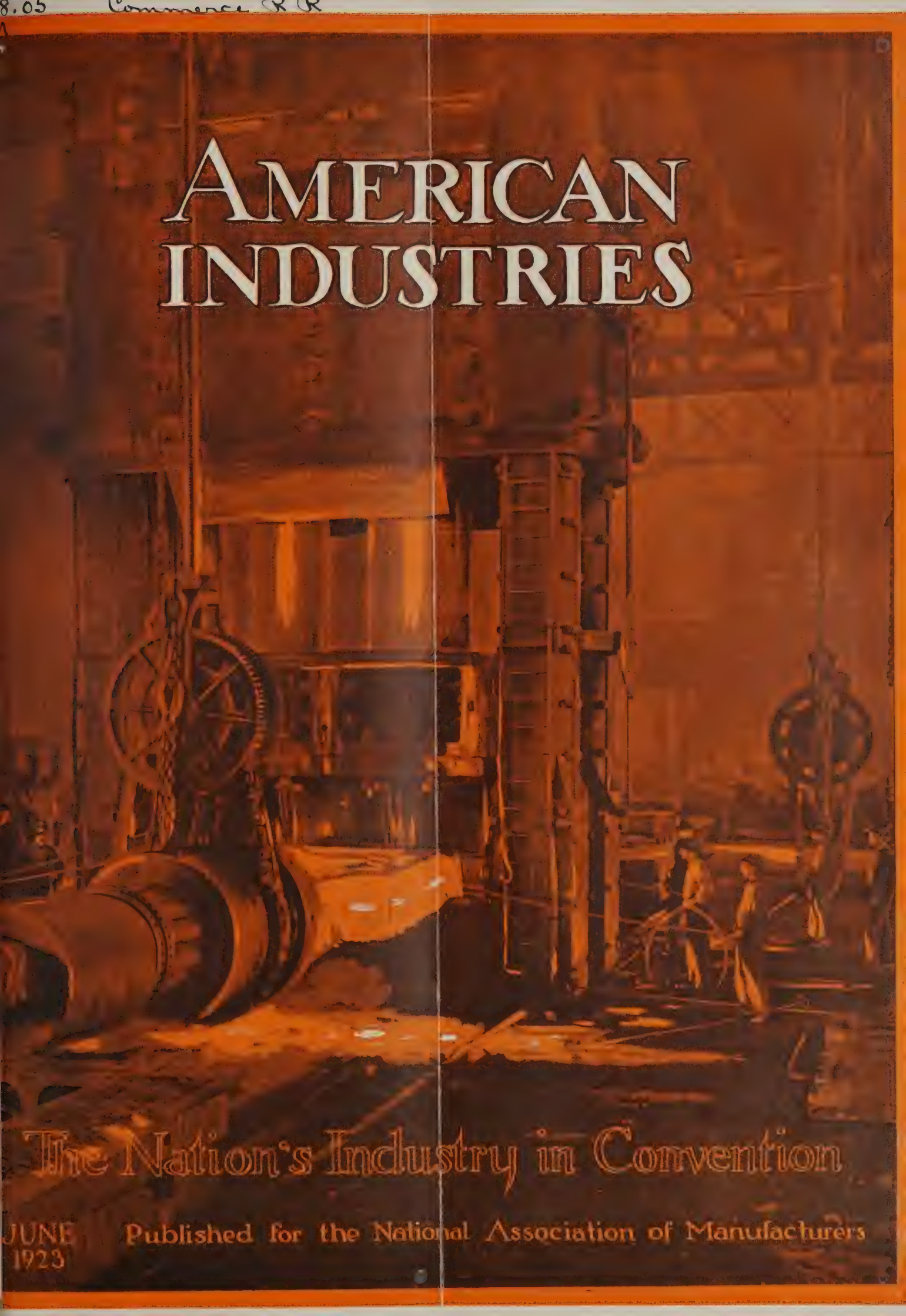
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AMERICAN INDUSTRIES



The Nation's Industry in Convention

JUNE
1923

Published for the National Association of Manufacturers

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Vol. XXIII

JUNE, 1923

No. 11

IN THIS ISSUE

Cover illustration: A 14,000-ton drop forge in the Bethlehem Steel Company's works at Bethlehem. (Photograph by Ewing Galloway.)

	Page
THE NATION'S INDUSTRY IN CONVENTION - - - - -	5
PRESIDENT HARDING'S MESSAGE - - - - -	6
REPORTS OF COMMITTEES - - - - -	7
On Immigration, Industrial Relations, Taxation, Patents and Trade Marks.	
THE INDUSTRIAL PRODUCTION SESSION - - - - -	9
Addresses by Acheson Smith, Dr. David Friday, Col. M. C. Rorty, Harold C. Smith.	
PRESIDENT EDGERTON'S ANNUAL ADDRESS - - - - -	15
HENRY MAJOR'S CARTOON OF MR. EDGERTON - - - - -	16
HENRY MAJOR'S CARTOONS OF MR. BOUDINOT AND MR. ABBOTT - - - - -	17
DR. B. M. ANDERSON'S ADDRESS - - - - -	19
ZENAS W. BLISS' ADDRESS - - - - -	20
SPECIAL FELLOWSHIP LUNCHEON - - - - -	20
WILL ROGERS'S TALK - - - - -	20
PRIME MINISTER POINCARÉ'S MESSAGE - - - - -	21
THE OPEN SHOP SESSION - - - - -	22
THE ASSOCIATION'S POLICY - - - - -	22
SID GREENE'S CARTOONS OF GUESTS AT THE BANQUET - - - - -	23
PHOTOGRAPH OF THE BANQUET - - - - -	24
(OPEN SHOP SESSION CONTINUED) - - - - -	26
Addresses by Ernest T. Trigg, Captain Robert Dollar, Edwin H. Marble, Henry M. Leland, Captain William P. White, Adolph Mueller, G. W. Burgess.	
PREMIER W. L. MACKENZIE KING'S MESSAGE - - - - -	29
OPEN SHOP RESOLUTION AND COMMITTEE REPORT - - - - -	30
PLATFORM FOR AMERICAN INDUSTRY - - - - -	31
FOREIGN CREDITS SESSION - - - - -	32
CARL R. GRAY'S ADDRESS ON TRANSPORTATION - - - - -	34
OFFICERS AND DIRECTORS FOR 1923-1924 - - - - -	36
JOHN J. CORNWELL'S ADDRESS ON COAL - - - - -	36
JAMES A. EMERY'S ADDRESS - - - - -	38
THE ANNUAL BANQUET - - - - -	41
SECRETARY DENBY'S ADDRESS - - - - -	41
BEN W. HOOPER'S ADDRESS - - - - -	43
THE RESOLUTIONS ADOPTED - - - - -	44
FOREIGN TRADE OPPORTUNITIES - - - - -	48

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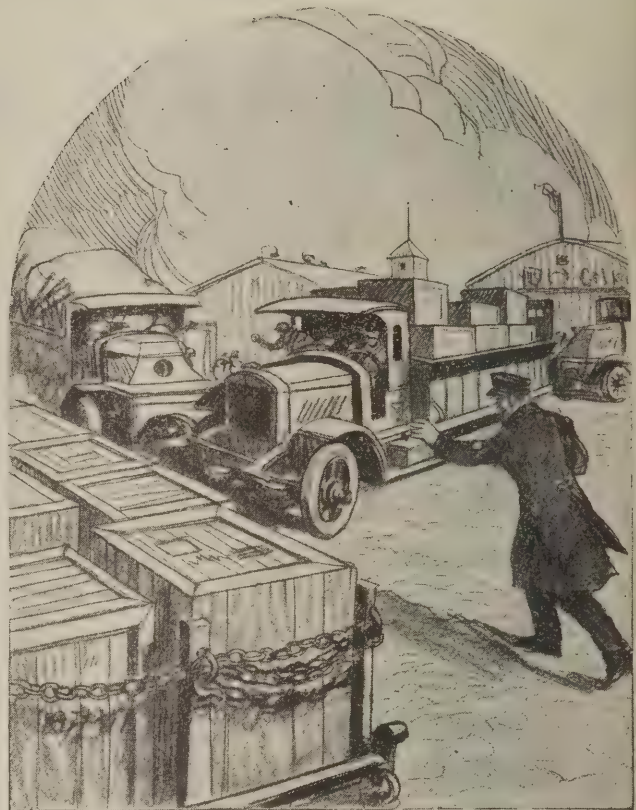
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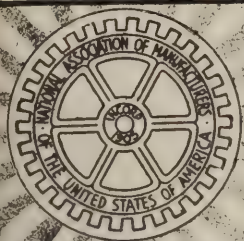
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AMERICAN INDUSTRIES

THE NATIONAL MAGAZINE FOR MANUFACTURERS

D. M. EDWARDS Editor and Manager

Vol. XXIII

JUNE, 1923

No. 11

The Nation's Industry in Convention

National Association of Manufacturers holds most representative meeting in its history, taking strong constructive action on the main problems interrelating industry, society and government

THE great and nation-wide effort of the manufacturers in behalf of restoring our national prosperity and business activity is deserving of the most emphatic and unqualified recognition."

With this warm and unusual tribute from Warren G. Harding, president of the United States, to John E. Edgerton, president of the National Association of Manufacturers, the twenty-eighth annual convention of the organization opened the most brilliant and representative meeting in its history on Monday, May 14, at the Waldorf-Astoria Hotel, New York.

From the very first tap of the president's gavel until the close of the sessions, the proceedings moved in thorough keeping with the national spirit of President's Harding's message—co-ordinated with the view to performing the greatest possible service to the country in general and giving constructive direction to industry in particular. It was a practical fusing of the relationships of industry, society and government.

Something of an international atmosphere was lent to the occasion by the receipt of cordial communications from high officials of foreign governments. Prime Minister Poincare of France, sent a message declaring that at no time had industry played a more important part in the world.

"American industry," he said, "is in the foremost rank, and everybody knows that its efficient collaboration is always granted to all undertakings having for their object the amelioration of the fate of humanity."

Premier W. L. MacKenzie King of Canada, sent a message voicing his regret at being unable to attend, as he would have appreciated the opportunity "to convey to the people of the United States an expression of the good will of their neighbors in the Dominion of Canada."

"We have learned," he said, "something of the meaning and value of coöperation as between our two countries through the wars of the past. The increase of international good will which this coöperation has effected is deserving of our highest mutual endeavor through the years to come."

This was a convention of manufacturers with its fundamental impulses for the public good—a vibrant machine moving with a sense of application and direction that seldom characterizes such a meeting. Perhaps one of the most wholesome veins was the optimistic spirit of the

leaders of industry and their expressed realization of their obligations to the welfare of the public.

Definite chapters of industrial problems were followed in a logical chain of discussion. Almost at the outset, Mr. Edgerton made public a survey of present and future manufacturing conditions, compiled from immediate reports received by the Association from every industrial section of the country. This gave a most healthy outlook, but at the same time Mr. Edgerton sounded a very strong word of caution that the manufacturers guard carefully against any period of undue inflation.

Following this came specific reports and discussions of the most outstanding problems of the day, with analytical studies that were invaluable on such topics as taxation, industrial production, transportation, coal, open shop, foreign trade and so on. Then came the conclusion of the manufacturers in resolutions that were framed tersely, clearly and without equivocation. And, as if to give promise that continued activity would be maintained for the public good, a Platform for American Industry was announced. This will be drawn up precisely and fully at a special meeting to be held in New York on June 27 and 28 and then urged upon Congress and both political parties, one of the most constructive steps that industry could take for the general betterment of business and the nation.

Indicative of the broad national scope of the convention's action, are the following extracts from the principal resolutions adopted:

1. The extraordinary rise in our tax burdens continually emphasizes the necessity of economy in public expenditure. Substantially one-sixth of American income is now required to support American government.

We re-affirm our hearty endorsement of the National Budget System, congratulate the President of the United States upon the vigorous retrenchment which he has accomplished through his determined applications of that system to the expenditures of the National government and urge upon our extravagant states and municipalities a practical imitation of the federal example.

To reinforce this policy, we urge our members before lending their endorsement to any project contemplating an appropriation of expenditure of federal funds to bring the proposal to the attention of the Association for investigation of its merits and fiscal effect.

2. We reassert the need of a permanent policy of selective immigration. We are as much opposed to unrestricted immigration as to the prohibition of all immigration. Our present law neither meets the economic or social aspects of our problem. Socially, our present policy makes no attempt to meet the problem of systematically identifying, instructing, distributing and naturalizing residents aliens, or simplifying the method of deporting those advocating political change by violence. The present law, or more drastic application of its policy, will intensify an increasing labor shortage without advantage to workers on consumers.

Let us through Federal coöperation with the States, accurately ascertain our immigration needs and opportunities. Through existing government agencies, let us present them in the countries of demonstrated assimilability, undertake, by agreement, to determine the admissibility of the applicant for admission before he embarks, assert the right to fulfill the obligation to register, intelligently distribute and instruct the alien during the period of his alienage, and induct him into citizenship under circumstances that emphasize the privilege.

3. We urge upon our members the most generous coöperation with the Veterans' Bureau in placing in our industrial establishments veterans of war undergoing vocational and rehabilitation training in order that they be afforded the widest opportunity for development and advancement, which their industry, sacrifice and capacity justify.

We favor the continuance of speedy and adequate relief for all who are in whole or in part physically incapacitated by service in the Great War, and for their dependents.

4. The unique characteristics of our government, the indispensable interpreter of our written Constitution, is found in our Federal Supreme Court.

The declaration that the Supreme Court "usurped" the power to invalidate acts in conflict with the Constitution is without a shred of historical support. On the contrary, the fact that that power was conferred was as distinctly understood and as clearly asserted as the fact of the adoption of the instrument itself. The proposal to require more than a majority of the members of the Court to render an enforceable opinion while recognizing the majority principle in the election and acts of every other department of the government, is not only opposed to every tradition of the people of our blood, but would, in practice, transform every inferior court, Federal and State, into as many Supreme Courts, without a final arbitrator of their possible differences.

5. The national defense and the maintenance and development of prosperous commerce require an adequate privately owned and operated American merchant marine, its ships built in American yards, of American material, by American labor, officered and owned by Americans and

operating without arbitrary or unreasonable handicaps under our flag.

6. We believe it to be our duty to intelligently and sympathetically contribute toward the material and political rehabilitation of Europe and the restoration of the social morale of its people by effective private and public economic coöperation involving no political alliance.

7. Political answers are continually proposed to every serious economic problem. To study such proposals, to offer constructive suggestions is at once the right and duty of a national organization of manufacturers.

To this end representative industrial leaders from every State in the Union participated in the preparation and presented to the conventions of our political parties the viewpoint of American industry upon public issues.

We recommend that the president and the directors of the Association be authorized to invite a similar conference for the same purpose and the further presentation of such ascertained opinion upon public issues before other appropriate forums.

8. The Association considers it the duty of the employer as a citizen to preserve and defend the right of open shop operation as an essential part of our national heritage of liberty.

9. We reiterate our belief in the necessity of developing a definite plan of national transportation inter-relating our waterways, railways and hard surface roads. We believe in privately owned and operated American railway system subject to rational public regulation.

10. We urge upon manufacturers the importance of protecting at home and abroad the value of American trade marks.

11. It is in the public interest that continuing support be given to the preservation of an independent source of fuel supply, which no combination can arbitrarily close to the needs of our people.

12. We recognize and appreciate the necessary services of land and sea forces in the protection and promoting of our national interests. The Army and Navy must have that adequate support which will maintain the services at the highest necessary efficiency and allow for that reasonable degree of experimentation in new methods of protective development.

13. We express appreciation of the efforts of the Secretary of Commerce to develop that great department to more adequately carry forward those activities of vital interest to productive industry.

14. We reiterate our faith in and unswerving support of the protective principle as the essential means of effectively safeguarding American standards of production and living. We believe, however, that the practical application of the principle predicated upon the difference in productive conditions at home and abroad should be determined by continuing non-partisan scientific investigation and not by the sporadic play of political consideration.

FROM THE PRESIDENT OF THE UNITED STATES

May 4, 1923.

My dear Mr. Edgerton:

I am under obligation to you for your letter which recalls to my mind the fact that the annual convention of the National Association of Manufacturers is to be held within a few days. I wish it might have been possible for me to be with you at that time but it is not.

The great and nation-wide effort of the manufacturers in behalf of restoring our national prosperity and business activity is deserving of the most emphatic and unqualified recognition.

I wish it were possible for me to say to them in person something of my feeling regarding this national obligation. That not being possible, I am asking you to communicate, if it is quite convenient, the sentiments I am here expressing.

Sincerely yours,

(Signed) WARREN G. HARDING.

A Convention With A Will To Do

Starts with a definiteness of purpose to accomplish some things that are of outstanding importance to the manufacturers of the country in their efforts to keep production on a stable basis

WITH the finest first day's registration in the history of the National Association of Manufacturers, the twenty-eighth annual convention started promptly at two o'clock on the afternoon of Monday, May 14. From the moment President Edgerton's gavel rapped the meeting to order, this most representative gathering of industrial leaders from all corners of the nation, responded with a spirit and interest that forecasted energetic coöperation and determination to accomplish that seldom characterizes such a convention.

Following the opening prayer by Dr. A. Edwin Keigwin, of the West End Presbyterian Church, the meeting moved with a zest. Immediately after the appointment of the usual convention committees and the reading of the reports of Henry Abbott, the treasurer, and of George S. Boudinot, the secretary, showing the association in a most healthy condition, the reports of the standing committees were taken up and followed with the keenest interest.

Unusual thought was given to the presentation of the Committee on Immigration, John C. Haswell, chairman, which, after showing the decline in the arrival of sturdy foreign workers since the passage of the present three per cent immigration restriction law, and the growing need for more immigration, made it quite clear that the association had never recommended nor urged the satisfaction of our working needs at the expense of our social and political standards.

"On the contrary," said the report in part, "at every appropriate opportunity, we have insisted that undesirable immigration was undesirable immigration, but it was not less a public than a private duty to systematically supervise, instruct, and, by systematic and sympathetic process, undertake the incorporation of qualitative restricted immigration into our body politic. But we have believed this was to be accomplished not by ignoring but by recognizing the economic requirements and qualifying their satisfaction not through a negative immigration policy of prohibition but a constructive one of selection for the interest of industrial management in the quality of our population and the progress of our citizenship is second to no other section of American

life. The advance of every American industry is dependent not more in the steady improvement of actual management than in the potential capacity for progress of every worker who carries promotion in his tool kit.

"Your committee has witnessed accumulating evidence of labor shortage in particular basic industries during the period of the year most favorable to meeting their requirements. It has not, therefore, seemed to meet our practical requirements merely to urge, at a time unfavorable for its deliberate consideration and mature formulation, a general permanent immigration policy. We are confronted during the period through which we are passing with immediate needs which must be met. We felt that if it was the intention of the Congress to limit otherwise admissible immigration the policy should be given definite rather than vague terms, by fixing quotas in net numbers so that whatever those numbers were determined to be there should be at least a specific determinant for calculation.

"Moreover, since the policy was experimental, it seemed equally necessary that during the process of adjustment to it there should be sufficient flexibility to permit conformity without economic distress. To this end, your Committee urged the lodgment in the Secretary of Labor of temporary discretionary authority to consider applications for the admission of otherwise admissible aliens in excess of quota where a continuing shortage, substantial in character, could be demonstrated. This left in the hands of the highest responsible official charged with the administration of the law a key which, reluctantly employed, could, nevertheless, adjust the administration of an untried policy to ascertained circumstances of national necessity.

"Accompanying these provisions for temporary relief, your Committee has called the attention of our membership and of industry and the public to the necessity for an affirmative, constructive policy of selective immigration and the expediency of considering whether the administration of such policy, when once determined, could not more safely be lodged in the Secretaries of Labor, of Commerce, and of Agriculture, primarily possessed of information and charged with the responsi-

bility of departments most affected by immigration, rather than in a subordinate administrative official of one bureau in a single department.

"A committee representing the Asso-operating with it, and your counsel, appeared before the immigration committees of both House and Senate, advocating the forms of temporary relief heretofore indicated and the necessity for a larger constructive program of selective immigration. The widest support was given to our program by the most representative and active industrial associations, local and national. The Senate committee in particular displayed especial interest in the presentation made, and there is every indication that at least in the Senate a constructive program is likely to be presented to the next Congress.

"Your Committee is more convinced than ever that, if the policy of severe restriction is to be pursued, it should nevertheless be selective rather than merely prohibitive, and ought in the public interest, to contain flexible features which will permit its otherwise unavoidable rigidity to be modified in accordance with demonstrated conditions of need.

"Your Committee is further of the opinion that a thoughtful modification of the contract labor law would be in the public interest. It presents an effective and practical means of at once stimulating, selecting, limiting and directing the most desirable forms of immigration when actual need is demonstrated. It was a policy of which Lincoln perceived the practical advantages. Subject to a well formulated public opinion, it presents a turning point of easily demonstrated public control. Any system of selective immigration ought to provide means through which the Executive Department may, through its numerous agencies, provide a practical means of presenting in foreign countries to demonstrably desirable alien populations the actual agricultural and industrial opportunities afforded by the United States in comparison with the well designed and systematic efforts being made by other nations to attract the best types and classes of the European immigrant."

The report of the Committee on Taxation, C. H. Smith, chairman, expressed opposition to a proposed

amendment to the Federal constitution that would bring under the taxing power of the Federal government the income of bonds that may hereafter be issued by states, counties and municipalities.

"Our traditional organization of an indestructible Union of indestructible States is something that we should not abandon without very careful thought," said the report, "We should avoid constitutional amendments which are likely to require a complete change in the form of our government. It is in matters of taxation particularly that the independent sovereignty of the Union and the independent sovereignty of the separate states have been pointed out by the United States Supreme Court on numerous occasions. At present, as from the beginning, the courts would declare unconstitutional any Federal statute which seeks to impose a tax on the income of a state bond, for such a tax would to some extent impair the power of the state to borrow money and would thus hinder one of the most elemental acts of state sovereignty. Similarly, no state may levy a tax on the income of a United States bond, for such a tax would tend to impair the sovereign power of the United States to borrow money. We can, if we choose, throw to the winds this dual organization of sovereign states and a sovereign general government; but it has served us for near a century and a half and we had better think sharply before we abandon it."

The committee pointed out that the heavier taxes which the citizens and industries now have to bear are those imposed by Congress upon income. When such taxes become exorbitant it is inevitable, according to the committee, that capital will be driven abroad and otherwise run to cover and will cease to yield an income, which, even if yielded, would be mainly for the satisfaction of the Collector of Internal Revenue. The committee did not report any progress toward the enactment of a Federal sales tax. It thought a small tax on expenditures would be an equitable method of distributing a part of the tax burden.

The Committee on Industrial Relations, M. M. Davidson, chairman, after voicing their relief in the soundness of the fundamental principles which underlie our present industrial system, said:

"We believe also in the necessity of assuring for each worker an *opportunity* to utilize his physical, mental and spiritual powers and to develop them to their maximum efficiency, in service to himself and others. We further believe that much of the present apparent discontent and distrust

among the workers in the United States at least, has come about through a misunderstanding of, or lack of knowledge of, the economic principles involved and through failure to fully recognize and emphasize the individuals involved, rather than through any fundamental flaw in the "system" itself.

"Accordingly your Committee is convinced that one of the outstanding needs of industry at this time is the presentation to managers and workers alike, of the fundamental principles of economics, of government, and of human relations in a Christian civilization, and that it is an essential preliminary to dealing with any one or more of the many symptoms of the lack of understanding or wilful disregard of these principles. The presentation of these principles must be based on scientific fact and the whole truth. It must be set forth in plain English. There can be no evading of issues and need be none. And furthermore, issues should not be made to appear where in fact they do not exist.

"The recommendation of your Committee is, therefore, that the Board of Directors authorize the executive officers of the association to take such steps as may be necessary and advisable to develop a plan of constructive education of managers and workers in industry in the fundamental principles of economics, of government, and of human relations in a Christian civilization."

The Open Shop Committee, C. D. Garretson, chairman, reported, in part:

"The friends of free American labor cannot but look with interest on the fact that one of the great political parties, according to the press of the country, is being urged to incorporate in its next platform a declaration in favor of the open shop. The very fact that this question is being discussed from a political angle is unquestionably recognition of a well-founded belief, that the general public is opposed to the closed shop.

"The open shop question, however, is much more than one of political scope and it cannot, in the final analysis, be settled in the political arena. It is, rather, an economic issue, though in the philosophy of the closed shop leaders a menace to our political institutions and to law and order is clearly presented.

"The open shop principle is clearly recognized and embodied in fundamental national law. The real question is one of full and impartial enforcement of existing law and maintenance of order. If this were accom-

plished there would be no need of considering the political expediency of the open shop principle.

"Careful study of the industrial situation has convinced your Committee that the majority of employers throughout the country are fully alive to the obligations they owe to the community and the workers as managers and guardians of industrial production. They are more acutely appreciative than ever before that their rights as American employers are also accompanied by corresponding responsibilities and duties. It is pleasing to note that the public generally recognizes that employers are placing American industry upon a progressively higher plane of efficiency and service. The wider degree of freedom permitted to managers of industrial plants, when open shop conditions prevail, has largely contributed to this achievement."

The Committee on Patents, Calvert Townley, chairman, reported the persistent efforts before Congress to bring about the passage of the Reclassification Bill, raising the salaries of the primary examiners in the Patent Office to \$5,000 a year in order to enable the government to draw a high class of men for its future appointments and ultimately put the Patent Office on a higher plane of efficiency. The measure, which became a law March 4, last, and becomes effective July 1, 1924, not only will prevent the withdrawal from government service of numerous able and efficient men, but will benefit all other professional and scientific employees of the government.

"As the Patent Office," said the committee report, "has been one of the principal factors in the industrial development of our country, and practically the most important factor, your Committee believes the enactment of the reclassification bill will be of great benefit to the country and that the National Association of Manufacturers was a very powerful factor, and doubtless an indispensable one, in effecting the enactment of this important legislation."

The committee recited the attempts made to introduce into the patent law a provision by which compulsory license could be obtained under patents which were not being manufactured under in this country, which were known as the Stanley bills. It declared that any such provision would impair the value of our patents and the incentive to produce patents and strenuously opposed the enactment of such bills. Moreover it pointed out that efforts would be made to pass the bill in the next Congress and that continual vigilance would be necessary.

The Industrial Production Session

PRODUCTION, safe, sane and stable is widely regarded as the key to prosperity in this country, and to fully assay this phase of the situation an Industrial Production Session was held on Monday night. Hays H. Clemens presided at the meeting. In opening the session he said he thought with every manufacturer that the idea of production was not just production but increased production,

and that there were two sides to the question. The one that occurs to all in the manufacturing or producing business arises from two things: in good times from a desire to fill orders; in poor times from the necessity of meeting competitors. Beyond that, he explained, there was another phase which as manufacturers is often overlooked and that had to do with the economic side.

ACHESON SMITH'S ADDRESS

Acheson Smith, vice-president of the Acheson Graphite Company, Niagara Falls, in discussing how management can be made more productive, said:

"Economists and clear-thinking publicists have said that greater production is necessary, but by many people such a statement is not understood, and by other people it is not believed. A portion of our population, for instance, is of the opinion that restricted production best serves to increase its wage rates and so is not favorably impressed by statements regarding the value of increasing the output per man.

"When greater production is mentioned many of us are inclined to think that the production at any time is practically equal to the demand, and remember that when it exceeds the demand the producer is injured by falling prices. Those who have been so injured, and many others, therefore fear over-production, and believe that a restricted supply will stimulate prices and so give them greater profit. We should realize, however, that such incidents of over-production are only temporary in their effects and that as a matter of fact the wealth of the country is what we produce in goods and services. If we look at wages in terms of dollars we will see that the total amount of such wages that can be divided among all the people of the country in one year is in round figures what has been produced in that year. If, therefore, we wish to raise our real wages we should increase the total production, for by so doing we would have more goods to divide among ourselves. When we think of ourselves as consumers as well as producers it is evident that if we want more we must produce more. Of course, it is true that there might be an over-supply of some commodities, temporarily, but that condition would quickly cor-

rect itself, and those who are not needed in such industries would find lucrative employment making other things that were in demand. This readjustment has been going on for a century, and undoubtedly will continue, for the total demand is practically unlimited.

"We must, however, not only consider total production, but we must approach the problem from the standpoint of per capita production, for that is the only way that we can measure our performance and see whether we are gaining or losing.

"When a group of men makes a demand for higher wages without increasing the output per man, it is simply saying that it wants a larger share of what is produced in the world without helping to increase the production out of which it is to be paid the additional wage. In asking for more it is simply saying that others will have to take less, for that is exactly what would happen. Some of the more progressive labor organizations are studying the subject and are actually coöperating with their employers to increase the per capita production.

"Managers desire to pay higher wages but are limited in what they can do if costs tend to rise. The problem is to increase wages and at the same time reduce costs. A substantial increase in the output per employee would make it possible to do both.

"The country is growing and our needs are increasing. This means that we require more laborers, and in view of the severe restrictions on immigration, it is difficult to see from where they will come. In the highly developed industrial sections of the United States practically no native-born American will do ordinary laboring work, and the children of our foreign-born, if they go through the public schools will not do the work of a common laborer.

"The present necessity for greater production is the result of the shortage of help, but it should be remembered that we are probably in a long-swing period during which the dollar will increase in value.

"Turning now to discuss what might be done, it is assumed that plant managers are familiar with what industrial engineering has accomplished, and acquainted with the literature of the subject. Surely, scientific management will never become a reality until it is recognized as a distinct function and so organized and separated from other work that pressure can be kept upon the solution of its problems at all times.

"Wage incentives are well worth looking into carefully, for they have worked wonders in many instances. One of the great advantages that is frequently overlooked in the setting of standards, by which to measure the performance of men is that such standards give us something by which we can measure the performance of foremen, and so sets a measure on management which would not otherwise be had. One of the greatest weaknesses in industrial organization has been the absence of a measure of foremen's work. Setting wage standards seems to remedy this fault and should be appreciated by the Management at its true worth. Time studies should be made, for without them we have no idea what performance to expect. It would be almost as bad to buy raw materials without analyzing them as to employ labor without making time studies and job analyses.

"Intelligent supervision by foremen is highly important and they should be trained for their work. The effectiveness of foremen lies very largely in the direct supervision of the workmen, and they should have a large portion of their time free for such duties. The amount of clerical work done by foremen should be investigated and if found to be burdensome it should be reduced.

"The question of training for executive work deserves attention. Men frequently come into positions as department heads, splendidly informed as to the methods of manufacture used to produce the quantity and guard the quality of the product in question, but absolutely ignorant of the principles of good management. It seems evident that there should be some definite training for executive work which would improve a man's performance in a junior capacity and fit him

for a major position.

"When every industrial manager takes an affirmative attitude toward greater output per man, a great Renaissance in the creation of material wealth will begin that will carry our working people to a standard of living and per-

sonal development not thought possible to-day. The capitalistic order of society can be justified and such justification must come very largely by the industrial manager showing the way to a higher standard of living through greater per capita production."

DR. DAVID FRIDAY'S ADDRESS

Dr. David Friday, president, Michigan Agricultural College, in discussing the economic need for increased production, said:

"During the last twenty years, from 1900 to 1920 say, we increased our population by 40 per cent—from 75,000,000 to 105,000,000. There are forty per cent more people to eat, 40 per cent more people to want things and consume them. If you look at agriculture you will find that with an increase of not more than five per cent of the people engaged in it, we have added 40 per cent to the output in bushels, pounds and gallons. Dire predictions by the various people who were professionally interested in agriculture, were that unless we started to farm our land better and resorted to the use of fertilizers and restored the fertility of the soil, we would have a gradually declining yield per acre and declining output per man. This country was in danger of suffering for want of food and textiles.

"It turns out that nothing of the sort happened. We have drawn great numbers of people from the agricultural sections into the city. We have had only a slight increase in agricultural population and yet agricultural production has increased 40 per cent—with only a five per cent increase in population or less than that. So that agricultural production has gone forward as rapidly as has the population of the nation.

"All of these people who think that the agricultural problem is a problem of getting people out of the cities and on the farm so that we can produce more food—these people are looking at the thing from a point of view which is futile and will come to nothing over the next ten or twenty years. I expect to see during the next decade or two, an increase in agricultural production which will keep pace in every way with the increase in population, without any material increase in the number of people on farms. I think the salvation of the farmer will be worked and is being worked—has been worked the last two years and is being worked this year—by the drawing of people off the farm. As near as I can find out one and a half million peo-

ple have gone off our farms and gone into industrial centers in 1921, 1922 and up to the middle of 1923.

"Well, what has happened in your field? If you will look at your statistics between 1899 and 1920 you will find between 1899 and 1920 you about doubled the production in manufacture. What happened there is production? We have several indices of production, one of them gotten out by Walter Stewart, head of the Division of Analysis and Research of the Federal Reserve Board. The manufacturing figures increased from 1900 to 1920 about one hundred per cent. It just about kept pace with the increase in labor.

"While the manufacturing laborer does not have more than the same amount of product per person in 1920 than in 1900, he has gotten something else. He has gotten an enormously increased amount of leisure. One of the most interesting sets of figures I have seen recently is the abstract of the Census of Manufacture, about the average hours which men work. As near as I can find out, during the last twenty years, there has been a decrease from sixty hours a week to fifty-one hours a week. That is, the man has had a 15 per cent decrease in the hours of work. That is one of the reasons why increase has not grown any more rapidly than the number of people. The striking thing you see when you look at it is that capital has increased enor-

mously—the capital stated in 1920 is five times as great as in 1900—\$8,900,000,000 of capital in 1900 and \$44,000,000,000 in 1920. You have five times as much capital measured in terms of dollars at least, and three times as much horsepower as we had in 1900 with twice as many people and only twice as much product.

"Every once in a while I try to impress on people what we have accomplished in the last 25 years. I think it can be proven without difficulty that in this country we have doubled the amount of produced wealth in the last 25 years; that is, from 1897 to 1923, we have added as much in the way of railroads and houses and pavements and buildings and machinery and factories as our forefathers actually accumulated in all the 280 years from 1608 to 1897. That is a remarkable attainment and the thing that impressed me and the thing that I brought out of the war as an economist was the productive capacity of this country when we were utilizing it to the full.

"Now, we are going to have in this country a special claim on our product in the next ten or fifteen years which we did not have in the last fifty or up to the war; namely, we are going to have asserted here the claim for the capital needed to expand the world's industry overseas; certainly in the Orient, in South America, and even in the rehabilitation of Europe, there is going to be a demand for capital here. How much? I do not know. But I should say a billion to a billion and a half a year.

"Now, how do you get capital and make it? A simple operation. You make capital by producing more than you consume. That is a definition simple enough so that anybody can do it. If I ever did anything for economics I have popularized that phrase. You create capital by producing more than you consume."

COL. M. C. RORTY'S ADDRESS

Col. M. C. Rorty, president, Telephone Securities Company, in discussing economic tendencies, said:

"If we should consider only the lessons of past business cycles, we should say that most of the signs were to-day favorable to the beginning of a period of business depression. Commitments have been made for more labor and material than can be supplied. Duplicate orders are being placed in the hope of securing adequate deliveries—and with the certainty of cancellations full deliveries become possible owing to a sudden decrease in demand. Wages are sky-rocketing; the productivity of

labor is declining; and the promise of profits on many forward contracts has already been converted into the certainty of heavy losses.

"Those conditions are particularly marked in the building industry, but the same tendencies are present in many other lines. Ordinarily we should say that the boom had culminated, or would shortly culminate, and that we must do penance for our economic spree in a morning after of depression. But this is too simple a picture of the situation. The average manufacturer and distributor still has a vivid remembrance of 1920 and 1921, and is guard-

ing himself against a repetition of the troubles of those very recent days.

"It would be a miracle if the present business cycle failed to follow in some degree the course of others that have preceded it. It is quite possible that complications resulting from a superabundance of credit facilities and from a continuing instability in price levels may defeat our best efforts to avoid the usual alternations of business feast and business famine. Some of the more pessimistic of our business prophets say that the situation has already gotten out of control—that in many industries wages and prices have risen and productivity has fallen until nothing but a partial shut-down can restore sanity and balance. But personally I am more optimistic. The immediate test lies in the building industry. Here conditions have clearly reached a crisis. Profits to contractors have vanished, except where work is being done on a cost-plus basis. Prices to the home builder and investor have mounted beyond reason. The choice is definite between a partial shut-down in building activity and a stabilization of construction costs on a level that will be fair to the public.

"I have reason to know that at least one earnest and very intelligent effort to bring such stabilization about is being made by a group representing all interests, including workers in the building trades. This concerted effort represents a new economic tendency. If it is even partially successful in the building industry, the lesson may well spread to other fields where conditions are, perhaps, less complicated. Heretofore we have stopped our runaway economic machine by running into the ditch. It may be that we are at the point of learning how to shut off the gas and apply the brakes. If so, there is no reason, barring wars and cataclysms, why we may not continue to travel the business road at a temperate but prosperous gait indefinitely.

"Now, here is the line, like a recording thermometer line, running from 1877, crossing from normal line back and forth, for 50 years up to the present time. You will notice here the 1919 boom and the depression of 1920 and 1921, where the decline in productivity was the lowest we have ever experienced. It is the lowest point—25 per cent below normal. The other drops have been 20 per cent or less.

This was a full 25. That is indicated by movements of products and manufactures.

"You will notice here that we are



Col. M. C. Rorty

getting up to the danger point. It is hard to fall out of a tree until you have climbed up. You are climbing up to a point where you may have a tumble.

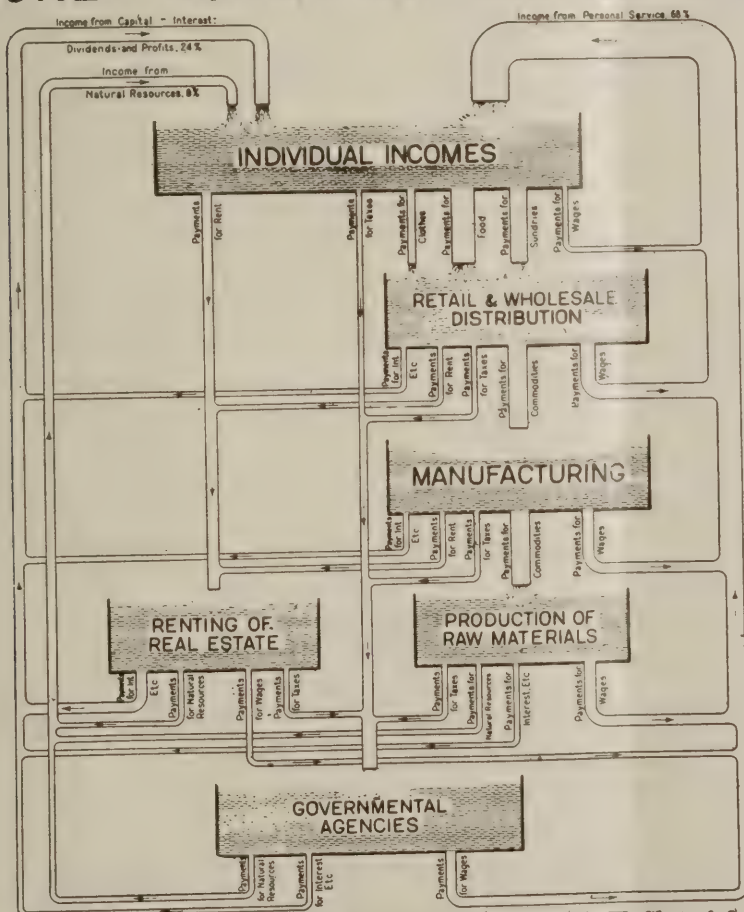
"This problem of stabilization is an important one. If the building industries can stabilize their activities and avoid the over-running of demand and hold things in line at a reasonable point, our other industries can do the same. There is no reason why we can't continue a little above the normal line without these other experiences. There is a point in here, 1893, when we did remain up above normal. Since then we have swung heavily above and below the normal line.

"In this country we have happily escaped in large measure the depression in civilization which has afflicted the greater part of Europe. But this escape only emphasizes our obligation to keep our popular understanding of our civilization abreast of its growing complexities.

"During the past three years the National Bureau of Economic Research, which is impartially controlled by a group of twenty-one directors, manufacturers, labor leaders, bankers, economists, etc., representing widely varying economic viewpoints, has made several investigations of far-reaching significance. Its most important work has been in determining the amount and distribution of income in the United States. Many of the results of this study can be stated in very simple form.

"The primary need for increased productivity is shown by the fact that even if there should be an absolutely uniform distribution of the national in-

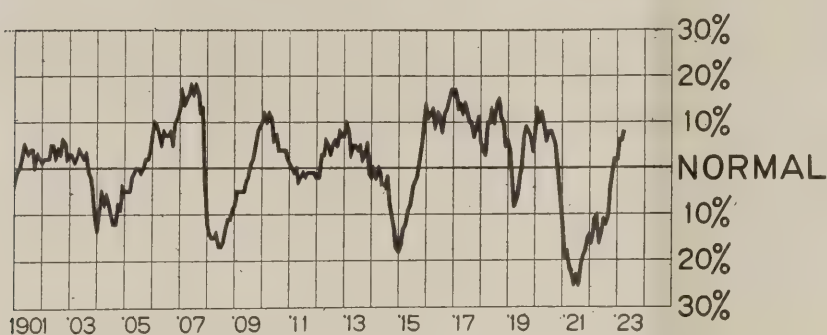
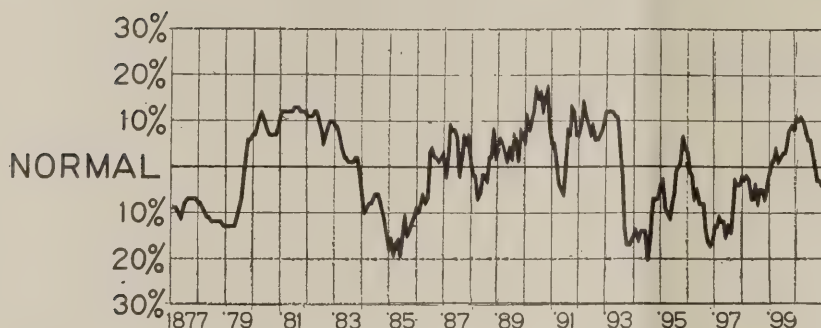
THE ROUND FLOW OF MONEY INCOME AND EXPENDITURE



From "Some Problems in Current Economics," courtesy of A. W. Shaw & Co.

A HALF CENTURY OF AMERICAN BUSINESS

1877 - 1923



come, the total of \$586 per capita in 1918 is still too small to meet the requirements of many of the standards of living that are frequently set up in theoretical discussions.

"The difficulty in securing any great improvement in the lot of the average man through plans for a greater equalization of income is shown by the fact that incomes of \$8,000 a year and above amount to only 14 per cent of the total.

"The necessary relations between wages and prices and the limitations on profit sharing, in the absence of increased productivity, are shown by the fact that, in the large and highly organized industries, from 69 to 72 per cent of the net value of a product is paid to labor, while only 28 per cent to 31 per cent is paid to capital and management, including undistributed surpluses.

"These facts are not reactionary or 'stand-pat' arguments. They are quite the contrary. They are a definite call to constructive action. But they have the double value of barring the way against ill-considered programs, while at the same time they point out the road for genuine progress. Their publication in authoritative form with the combined endorsement of labor leaders and socialists, bankers and economists, business men and manufacturers, is,

perhaps, the most significant of all present-day economic tendencies.

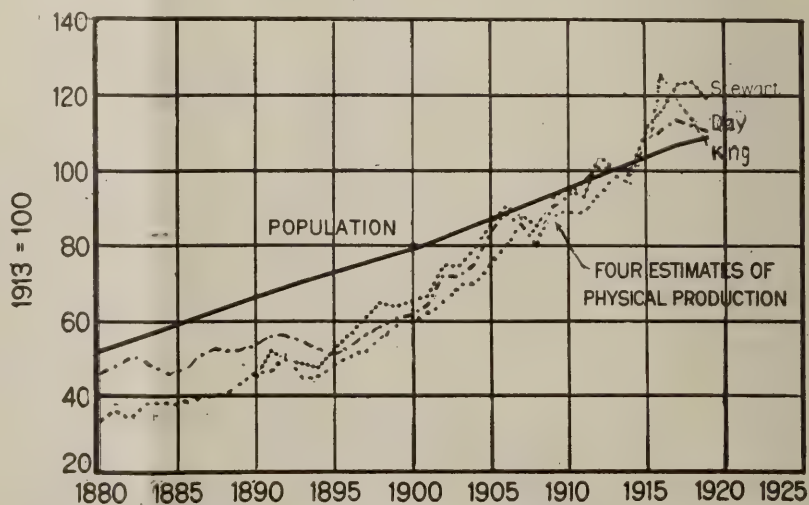
"I would like to show you a few other lines of economic investigation. Here is a picture of the whole movement of income and expenditure in our industrial organization. That picture represents results of a vast amount of investigation (indicating charts). Here we have the larger pipe which is income from personal service, 68 per

cent. Some investigators say it is 70 per cent. On the other side we have income from capital, interest, dividends and profits. The smaller pipe here is income from natural sources.

"Here you see the family budget—payments for taxes, rents, clothes, food sundries, payments for wages. They move on here through retail and wholesale distribution, manufacturing, production of raw materials—and it all finally comes back as individual income. That is the way to test more of your economic facts than in any other way. Every dollar of expenditure very promptly comes to be a dollar of income for some individual.

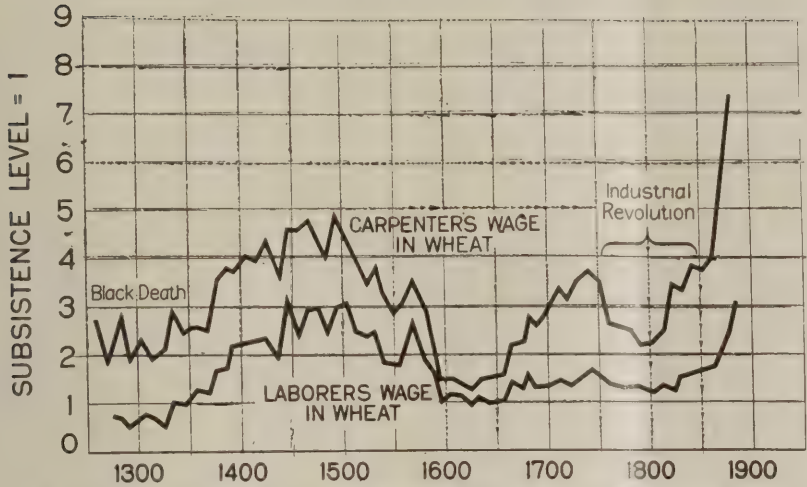
"Now this question of productivity is a very important one in connection with our modern industrial developments. One of the most interesting sets of statistics that I have ever seen is reproduced in this chart. It shows the real wages of English carpenters and agricultural laborers from the year 1270 to 1890, measure in terms of wheat. This figure I represents a minimum amount of wheat to maintain a family. It was during this period, in fact at the end of this period, just before the industrial revolution, that Malthus brought out his theory that population tended to increase up to the limit of subsistence; that periodically elements of population would come to the starvation limit. Here we have the black death, when England and Wales were cut in two, practically. And after that pressure of population had been relieved, wages went up. There was more wheat to go around. Then population increased and we went back to the starvation level again. Then, I think about this time (indicating) we began to get revenue through emigra-

INCREASE IN POPULATION AND IN PHYSICAL PRODUCTION



From "Some Problems in Current Economics," courtesy of A. W. Shaw & Co.

REAL WAGES OF ENGLISH CARPENTERS
AND AGRICULTURAL LABORERS
FROM 1270 TO 1890



From "Some Problems in Current Economics," courtesy of A. W. Shaw & Co.

tion to America.
"It was not until we came to the industrial revolution—modern machinery and factory processes—that wages began to get permanently above the subsistence level and you can see how wages went up here—carpenters and laborers.

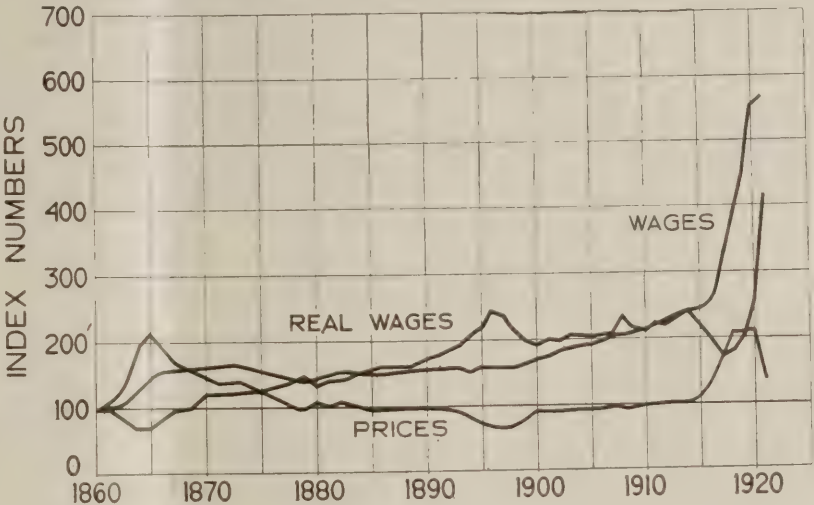
"Now, let us take that forward to modern times. Here is a picture of relative prices and wages in the United States from 1860 to 1920. You will see that following the general trend of this line, it shot down and up and wavered back and forth a little, but the general trend is in this direction, and real wages to-day are roughly 250 per cent in the United States of what they were in the year 1860. That is verified by this chart of physical production, of which Dr. Friday spoke. Dr. Friday spoke about these studies of physical production. These are composite figures covering raw materials in the main—some fabricated products, too; studies by Snyder and Stuart and Day and King.

"You will notice that the lines which indicate here the increase in production rise at a higher rate than the line of population. This increasing productivity per capita here is in line with the chart showing increase in real wages.

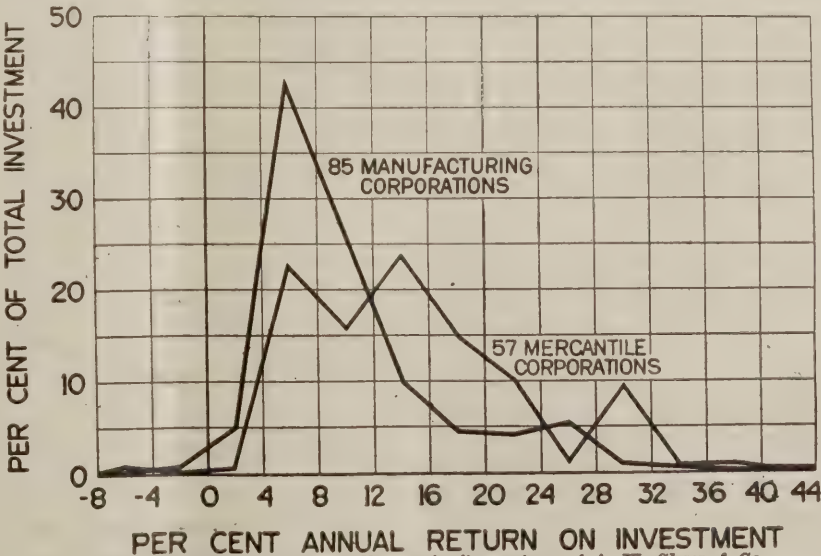
"Here is the final chart which will interest all of you. It is this question of how far we can get improvements in conditions for the average worker out of profit distribution, profit sharing, and how far we must rely on increased productivity. That is a chart showing the rate of return on money invested in manufacturing and mercantile undertakings. You will notice that in manufacturing the largest

amount of capital is concentrated around a six to eight per cent point.
"You will find if you analyze this curve that about ten per cent of the money invested in manufacturing is earning less than a growing interest rate—less than 6 per cent. That represents the firms that are on the verge of failure. These firms that are earning 6 per cent to 8 per cent are making a comfortable living, but no more. The big profits are all concentrated in 40 per cent of the capital invested in the concerns earning from 12 per cent up.
"Now the average, as near as can be determined, of this whole group of manufacturing corporations (there were eighty-five of them and these were figures carefully checked—pre-war figures but would represent an average year at the present time)—the average of return is between 13 and 14 per cent

Relative Prices and Wages in the United States



RETURN ON MANUFACTURING
AND MERCANTILE INVESTMENTS



From "Some Problems in Current Economics," courtesy of A. W. Shaw & Co.

on increased capital. The significant point is that in every line of manufacture there is a line that is earning such a growing interest rate and those concerns since their product has been required to supply the market almost in-

evitably raise their prices in proportion to labor costs and we have in this curve the fact that capital is concentrated in the 6 to 8 per cent interest group and prices do follow changes in labor costs."

HAROLD C. SMITH'S ADDRESS

Harold C. Smith, president, Illinois Tool Works, Chicago, discussed how labor can be made more productive, saying:

"For many years, the National Metal Trades Association has taken an active interest in industrial training. One of its early efforts was at the Winona Technical Institute at Indianapolis where the Association in conjunction with its Indianapolis members completely equipped a machine shop and voted financial support to the institution for its maintenance, and a committee was appointed to co-operate with the officers of the Institute. Later, when the school system of Indianapolis took over this institute and started the present Arsenal Technical High Schools, the equipment was transferred to it as a nucleus at that school from which the present extensive system of shops for vocational and technical education has grown.

"As far back as the year 1906, in co-operation with the University of Cincinnati, under the direction of Prof. Herman Schneider, members of our Association opened their shops to students in the University's Co-operative Course in Engineering and this arrangement is still continuing. As a result, facilities are open to young men to acquire a practical shop training combined with an engineering education. The year 1911 found the Association actively supporting the efforts of the National Association for the Promotion of Industrial Education in working for the passage of the Smith-Hughes Bill granting Federal aid for vocational education.

"The training of workers is now being carried on under five general plans each of which has its place in industry.

Instruction by Foreman: This is the system most universally employed and consists of putting the workmen directly into the department, under the supervision of the foreman in charge, who is entirely responsible for their success or failure. Our Committee finds that the particular objection to this method is that the foreman being responsible for the output of his department, has in many instances, neither the time nor the patience to properly instruct the worker, and in

many cases lacks the ability to impart his knowledge.

"The Co-operative and Continuation Schools have for their object the manual and technical training of boys and young men in a particular craft or trade which they may select. By this form of education the boy is able to earn money throughout his school course, and is enabled to obtain an education whereas without such an opportunity many would be compelled to quit school entirely. It has an advantage in that it requires no additional expenditure or teaching force, with the exception of one supervisor to aid in co-ordinating the efforts of the industries and the public schools.

"Compulsory attendance at continuation schools by permit workers has also made rapid strides, the majority of states now having legislation making this form of education mandatory. Our Committee feels that these forms of education are desirable and most earnestly asks the interest of manufacturers in such schools in order that they may be made most practicable and kept free from political influence. Of course, these schools being under public supervision, cannot be expected to convey confidence in the intentions and policies of any particular company.

"**Special Training in Plant:** This system, which consists of training in the department by a general instructor, has some of the advantages of the Vestibule School and, in our opinion, is preferable to instruction by foremen. It is particularly applicable in shops whose equipment consists mostly of large tools which cannot be isolated.

"**Vestibule School:** This plan came into prominence during the war. As the name implies, it is intended as the worker's entrance to the factory. While by no means supplanting apprenticeship, it is adaptable in some form in most shops, and properly managed, goes far toward relieving the shortage of skilled labor. It has been applied very successfully to the intensive training of workers for repetition processes and has also been used to train specialists. Where this form of training is used, all accepted applicants are sent to the school, where their fitness or unfitness is readily determined.

"**Apprenticeship:** Apprenticeship is particularly designed to take care of young men who wish to learn a trade in all its branches, but is not generally adaptable to the instruction and upgrading of unskilled workers. Our Committee finds that while there has been a lull in apprenticeship training, partially as a result of conditions brought about by the war, this has been due also in a large measure to the unattractive conditions of the indentures. To remedy this, the Committee developed plans for apprentice training which were submitted to, and adopted as basic practice by the National Metal Trades Association at the annual convention in 1922. We believe this plan, wherever installed, is sufficiently attractive to secure and hold desirable boys and young men.

"While the individual members of our Committee have a preference for certain methods of training within their own establishments, the Committee as a whole has not reached the point where it recommends any one system of training as applicable to all plants. In view of the size of our membership, the differing production methods, the vast territory covered, and the changing conditions in industry, the futility of recommending any one system can readily be seen.

"The following observations, we believe, generally apply:

"1. Comparatively few men have the faculty to impart knowledge to others. Often the best workman is the poorest instructor. Hence it is preferable in most cases to engage a competent man to assume this work.

"2. Even though the foreman happens to be a good teacher, he is in most instances too occupied with important production problems to devote proper attention to beginners.

"3. The average foreman, due probably to the press of other matters, lacks the necessary patience, and sometimes the human insight, for instructing the beginner. He may also consider himself too high grade an executive to be assigned to such work.

"4. Unless the schooling is centralized, the company cannot readily carry out a fixed policy with regard to teaching subjects pertaining to honesty of product, citizenship pride in good workmanship and loyalty.

"5. The influence on the future attitude of learners toward each other and toward industry depends largely on the impression made on them at the start. This should be borne in mind constantly.

"6. In a school, the beginner is sure of a variety of work, whereas, the tendency in the shop is to give him such a quantity of simple work that he will not need the attention of the foreman for some time."

The President's Annual Address

Mr. Edgerton lays particular emphasis on taxation, immigration, bonus and railroads and appeals to the manufacturers to perform fully their obligations as citizens as means of stabilization

AT the opening of the Tuesday morning session, Mr. Edgerton brought the delegates into closer contact with the two living ex-presidents of the association. He introduced Stephen C. Mason, of Pittsburgh, who had been his immediate predecessor, and read the following telegram from John Kirby, Jr., of Dayton:

"It is with deep regret that I for the second time since our famous convention in 1903 at New Orleans find circumstances prevent my participation in the deliberations of your 28th annual convention. Please convey to my associates and friends my greetings and best wishes and accept for yourself my great admiration and esteem, coupled with the hope and belief that the present convention will be a record-breaker and redound to the credit of your splendid leadership. May God be with you till we meet again.

"(Signed) John Kirby, Jr."

Mr. Edgerton then delivered his annual address, in which he appealed to the manufacturers of the nation to strive to perform fully their obligations as citizens as one of the surest means of promoting industrial peace and prosperity. He said that as this great nation was built on an industrial foundation, the high and lofty principles for which the country stands can only be maintained by the fullest interest and active initiative of its leaders in industry.

Mr. Edgerton discussed among other things: tariff, taxation, which he said was the most important economic question before the people today; the bonus, saying that industry will always favor every aid for the disabled but will just as stoutly oppose the sweeping unreasonable bonus for all; the railroads, decrying any attempt that may be made to place them under unbusiness-like government ownership; immigration, reiterating the policy of the association which believes in a wider application of the selective system; law and order, declaring the efforts of misinformed institutions, make it incumbent upon every real American to give his strongest support to constituted law.

"The matter of perhaps the largest concern to most citizens to-day and the most potent factor in the economic

life of the nation is the taxation question," said Mr. Edgerton. "Taxes



John E. Edgerton

seem to have ceased to be the mere means by which government is enabled to perform its orderly and legitimate functions and to have become the chief end of all government activity. On the other hand it has come to pass in these days of much acting and little thinking that the public treasury is regarded by a considerable portion of our population as Nature's perennial spring in the Desert of Life from which weary travelers may quench their thirst without ever affecting the source of supply.

"Reflect for a moment upon the recent disclosures of the National Budget Committee. According to its careful estimates based upon federal statistics, the total annual cost of government in these United States—national, state, county, and municipal—is eight and one-half billions of dollars, which is approximately fourteen per cent of our national income. More than two million persons, or five per cent of our adult population, are on the public pay rolls. On the basis of five persons to the family, the cost of government is about four hundred dollars per family per year. Subtracting the paupers, non-producers, criminals, and those otherwise exempt from taxation, the burden upon the elements of thrift and honesty is not only dis-

couraging to individual initiative, enterprise, and thrift, but a serious menace to the moral fibre of the nation.

"When it is considered that this primary cost of living in a free country is growing proportionately larger than our national income as legislative bodies become more reckless in their appropriations to satisfy political passions for graft and advantage on the inside and the insatiable appetites of multiplying clamors for gratuities, adjusted compensations, privileges, and exemptions on the outside, the conclusion is inescapable that our Ship of State is headed towards the reefs of economic disaster. Study the proceedings of legislative committees and others having to do with the problem, and you will discover that in most instances the chief consideration is not with the causes of taxation and how to reduce them sanely, but with methods of taxation and how to obtain the largest revenues easiest, quickest, and with least offense to the sources of greatest political power.

"As long as the attention of the public can be kept away from the mounting totals by the legislative legerdemain of shifting the burden about from the shoulders of one group to those of another so as to interrupt continued soreness and keep the forces of protest divided by alternating vacations of partial relief, we can expect to make no progress towards a permanent cure of our taxation ills.

"Until government in America is forced back by public sentiment into constitutional channels, ceasing its exercise of alien functions in the fields of paternalism and socialism, and until intelligent economies in its operation are courageously effected by a new order of statesmanship, there cannot and will not be any just relief from excessive taxation and other evils which afflict us.

"This is the one outstanding, big task, the real major problem in America to-day. And it is the maternal ancestor of most of the other problems with which we are wrestling. The condition precedent to its solution is an enlightened understanding of the proper functions of a republican form of government as distinguished from an impossible democracy, and a suffi-

cient amount of honesty and courage in public life to apply what is understood. It is idle to expect this condition to be met until the best qualified individual and organized units of our citizenship recognize clearly and accept fully all of the responsibilities attached to the right to live in this incomparable country.

"When through these processes government is restored to its native sphere and is put on a sound business basis, the amount of revenue needed for its efficient operation can always be determined with comparative ease. Whatever the amount determined as actually needed for the legitimate ends of government, every citizen in the nation outside an almshouse, regardless of sex or other condition, should be required to pay his fair share of it; and that share should be regarded and will be regarded by every worthy citizen as a small price for the privilege of living in the grandest country the world has ever known.

"Nothing is more needed to be taught and understood by the masses of the American people to-day than that every right they enjoy from the hand of God, man, or their country, has attached to it on the near side an obligation through the performance of which only does that right exist. From such obligations there is no honorable immunity, and they cannot with honor be shifted or dodged.

"It is probably known by most of you, if not all, that in and out of season every just power of your organization has been used to resist bonus legislation conceived in the fictitious interest of able-bodied soldiers or other citizens. We are proud of the effective part which we have played in at least postponing the visitation of this moral and economic absurdity upon the country. We must not, however, delude ourselves with the thought that the snake is killed. It is only scotched,

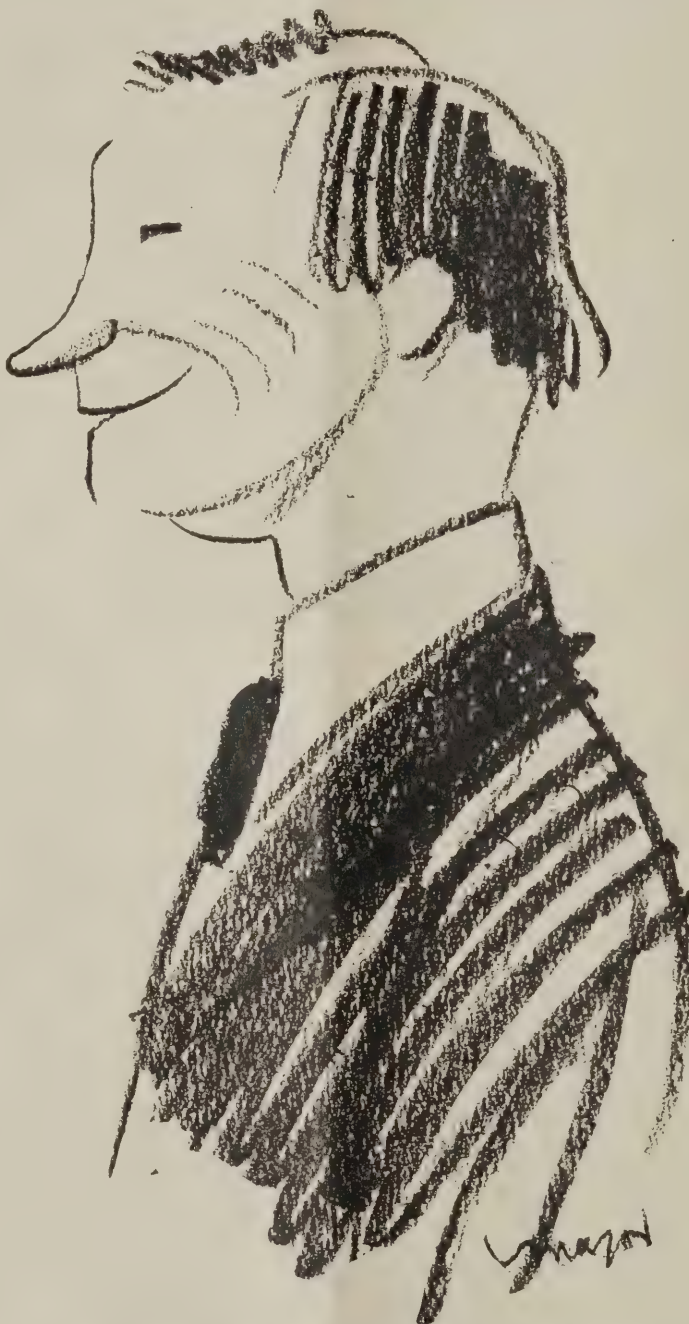
and, like other poisonous reptiles it is probably possessed of many lives. It will not die as long as there is a member of the United States Congress who values his political life above honor or as long as there is enough of ignorance, prejudice, or greed among the veterans for designing buccaneers to organize into a threatening political power. This is another vital respect

tent American who did not do his full duty as a citizen and patriot when our country was at war or who deliberately took undue advantage of the situation to promote his individual fortune at the expense of the common cause. I condemn and pity that person who cannot look back upon that memorable struggle with the comforting and inspiring consciousness of having

done the full part of a patriot as a soldier either in the uniform or out of it. One who has this patriotic light in his own clear breast can sit in the center and enjoy bright day,' but he who hides a dark soul and foul thoughts of duty unperformed 'benighted walks under the mid-day sun, himself his own dungeon.' It will be a sad day for our country when patriotism ceases to be a virtue that carries its own reward and when fighting for our flag assailed ceases to be regarded as among the highest of self-compensating privileges.

"Wars are won by nations fighting as a whole and not by selected parts wearing distinctive dress and occupying relative positions on the battlefield. Those are to be honored most whose privilege or lot it was to make the larger sacrifices, face the greater dangers, and endure the most hardships. But they only degrade their own records when they undertake to put a money valuation upon the services performed, and they only destroy the best of what they fought for when they attempt to calculate its worth. Let it not be forgotten by them or us that the ultimate object of the German soldiery itself was the treasury at Washington. It was the rendezvous of the Kaiser's fondest thoughts and the palace of his sweetest dreams. When the enemy was fighting to

reach it, our soldiers said, 'They shall not pass.' And they didn't. Now let them exercise the same restraint upon themselves and say the same thing with equal emphasis and sincerity to all those in our own country who would



How Mr. Edgerton looked when he saw the cartoon of Mr. Boudinot. Cartoon by Henry Major in the New York "American," captioned by the Editor as follows: "John E. Edgerton, who, being president of the National Association of Manufacturers, had to look as though he really believed all the optimistic things he said about prosperity at yesterday's opening of the annual convention. Above, Edgerton registers belief and gets it across."

in which the National Association of Manufacturers is in a peculiar position to serve industry, the nation, and the very causes for which our armies fought.

"I have no apologies for that compe-

despoil that which has been with incalculable cost preserved against the rapacity of a foreign foe. If these moral considerations and this estimate of the finest sentiments of our nation's soul will not obtain as a sufficient preventive force against yielding a bonus to the hordes of selfishness, then perhaps the sacrifice of our economic life as the price for a so-called adjusted compensation would be regarded as a trifle.

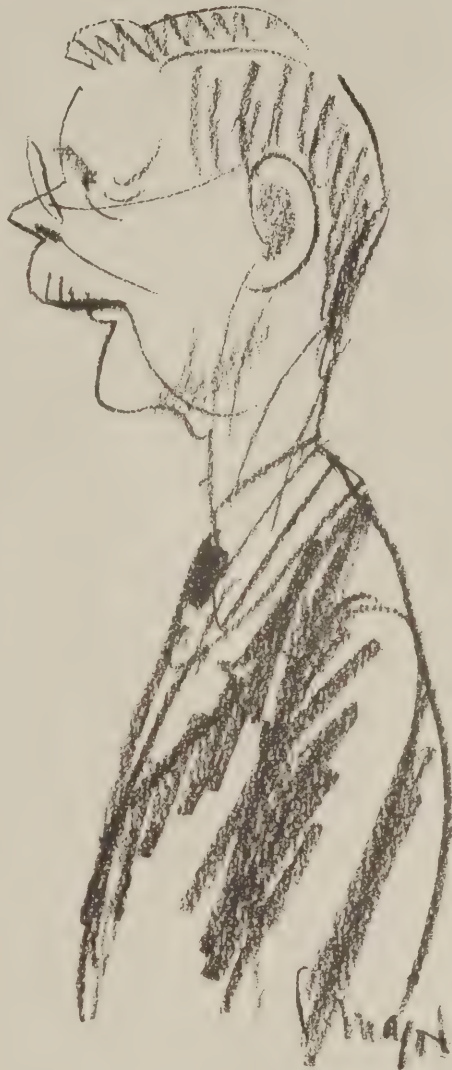
"The strike of some of the railroad brotherhoods against the public last summer and fall furnished another occasion, unhappy as it was, for your association to render industry and the nation a notable service. The question involved in that controversy reached through our entire social and economic structure. Representing as we do the largest portion of the shipping interests of the nation and seeing those interests jeopardized by organized greed and lawlessness, and observing the peril to some of the most cherished of American principles, we extended the unsolicited and unsubsidized hand of helpfulness to those who were fighting the common battle. Except for the publicity which we were prepared

to give and did give effectively to the facts of the situation and for other entirely proper and just services which we were able to render, it is very doubtful that this strike would or could have been won by the railroads for the public.

"In this particular connection, I wish to call your attention to the National Industrial Council through whose instrumentalities we were able to accomplish these and other worthy ends. The Council is very closely linked with and related to the association. It is composed of more than three hundred national, trade, state, and local industrial organizations embracing more than seventy-five thousand manufacturers. Through these organized units throughout the nation messages of interest can be quickly communicated stimulants to action expeditiously administered, and industrial opinion effectively marshalled. In nearly all of the thirty-eight states having state industrial organizations we have organized State Industrial Councils consisting of local industrial units and operating as an organized force for the state as the National Industrial Council does for the nation. This is the most practical scheme of a national federation of manufacturers' organization ever attempted, and it is an accomplished fact. Local autonomy is fully preserved in it and the right of self-determination not interfered with.

"A question of large immediate interest not only to manufacturers but to all other classes of employers is that relating to immigration. For two years we have been giving very diligent study to this question under the leadership of an eminently qualified committee carefully selected for that purpose. As you have been apprised by the committee's report, very definite and clear conclusions have been reached and concurred in by the overwhelming majority of our members and of other important national organizations of employers. Notwithstanding our scrupulous and prodigious efforts to make our position clear enough to be understood even by the most mentally unfortunate, there are yet a few of our own members and many others who are either deliberate fugitives from information or conscientious objectors to its forcible injection.

"In view of the definitely established shortage of labor, varying according to industry and locality from three to ten per cent and of the consequent impairment of normal industrial processes considering also the patently freakish operations of the present Three Percentum Act, your association is insisting that this Act ought to be rationally modified so that those who leave our shores



How Mr. Abbott looked when he saw the cartoon of Mr. Edgerton. Cartoon by Henry Major in the New York "American," captioned by the Editor as follows: "Henry Abbott, treasurer of the Manufacturers' Association. Major's cartoon does not carry a descriptive caption, but Abbott is at this juncture probably wondering just how he is going to say what he has to (and did well) pass on to the 'brothers.'"

within a given period may be deducted from the respective quotas to be admitted within the same period, thus making it a net instead of a gross operation of the Act.

"This would be a removal of the bars, but only a slight lowering of them; and we believe it would relieve a bad economic situation without any deleterious moral results. One extreme position is prohibited immigration, which would be cowardly and suicidal; while the other is very liberal immigration such as we have had in the past and which is neither necessary nor desirable.

"Our position is just between these two extremes and is thoroughly consistent with the traditions of our country respecting our obligations to other peoples and to our own. We resent any charge or insinuation that we are looking at this question through the eyes of greed and that we would subordi-



How Mr. Boudinot looked when he saw the cartoon of Mr. Abbott. Cartoon by Henry Major in the New York "American," captioned by the Editor as follows: "George S. Boudinot, the genial and (you can tell at one look) hard-working secretary of the National Association of Manufacturers. Boudinot is the answer to the age-old question, 'Why is a secretary?' He is the one that gets the 'buck' and hasn't any one else to pass it on to."

nate the moral to the material welfare of our nation.

Let those who are saturated with a lust for the autocratic control of our labor markets and those who are controlled in their thinking by social, political, religious, or other prejudices examine themselves if they would discover that for which they are looking in others. Whatever the individual views, conduct, or practices of any minority of its membership, the National Association of Manufacturers, so far as I can interpret and influence its position, stands now and will continue to stand openly and courageously for the eternal principles of right, reason, and justice enshrined in the constitution of our republic, in the Golden Rule, and as construed and applied by those whose names and deeds have made this country the greatest among the nations of the earth.

"Following the precept uttered by the illustrious father of our country and inscribed on the beautiful memorial arch in Washington Square, this city, we are trying to 'raise a standard which the wise and honest can repair,' knowing that 'the event is in the hand of God.' While there is much in the past and present to inspire us in our high endeavors, yet there are many obstacles in the path to which duty points.

"We should never be in the attitude of apologizing for or defending any industrial or other hypocrite who brings dishonor to the lofty standards and exalted principles for which we as an organization stand. On the other hand, we should be as swift to condemn and as ready to help discover and punish any crookedness or criminality among those of our own number as among those of any other class.

"Personally, I have a profounder contempt for the employer of labor who may be a crook than for an employe, because the former has better opportunities for knowing the right, less reason for departing from it, and greater obligation to lead through both precept and example.

"Another obstacle immediately before us is the indifference with which many manufacturers regard some of their highest obligations. Some have grown so large and overconfident in their entrenched positions that they feel quite sufficient unto themselves while others have grown smaller under the atmospheric pressure of rapid rising in the world, 'lifting their heads into the clouds and scorning the base degrees by which they did ascend.' They are jealous and proud of their imagined ability to do all of their thinking for themselves. As a matter of fact, very few of either of these

groups do very much thinking except upon the things that lie within the radius of self-interest. They hire somebody, usually a good lawyer, to think for them. Then, they employ a good doctor to tell them that they are overworked and need a long rest in the vicinity of an inviting golf course. It is often from these sources that the most dangerous compromises proceed in the disguise of philanthropy and because of which countless thousands are made to mourn.

"These gentlemen forget that they have no natural right to assume positions, duties, or tasks which will prevent their discharging the normal responsibilities of good citizens and the free exercise of the native powers of discrimination. There are certain obligations which may not with the sanction of good morals be entrusted to other hands and from which no immunity may or can be purchased.

"Another sophistical and wholly un-American idea that is becoming nauseatingly prevalent is that compensation for work should be calculated upon the basis of the worker's needs. This absurdity grows out of the presumptuous theory that the world owes every person a living. The world, of course, owes a person nothing except the right to life, liberty, and the pursuit of happiness. It owes him the right to earn a living, and all that he gets which he does not earn is derived from the charities of others or is dishonestly obtained.

"We have had no occasion during the year to concern ourselves with tariff matters except to observe carefully and study the operations of the new law with a view of being prepared always to fight effectively for the traditional protective principles of our organization. We have been particularly interested in watching the operation of that part of the law which enlarges the powers of the Tariff Commission and the executive branch of our government and for which we successfully contended. We are now urging that the powers thus delegated by Congress be fully and thoroughly exercised as the intended remedy for any moral or economic inequities that may have been or that may be brought to light by the operation of the Act. We are still firm in the conviction that the tariff question is essentially economic in character and has no rightful place on the battleground of political warfare. It is to be fervently hoped that some future Congress may have sufficient foresight and courage to complete the work of segregation already too long delayed.

"Gentlemen, there is much to do. The enemies of law, order, and peace

are perpetually active. Never did America need good soldiers more than now. By virtue of your natural endowments and experience in constructive leadership, yours is the larger obligation to set examples of good citizenship to others and to lead in all worthy enterprises.

"You can do many things as citizens that you cannot do as employers of labor. It is to be remembered that we are all members of society and in that relation we have specific duties from the exactions of which there is no refuge. In our relation as employers we must be sure to discharge every economic obligation to our employes paying them what they earn and making the conditions of employment as comfortable, healthful and pleasant as possible. In our relation to them as fellow-citizens and brothers, it is our duty to share with them so far as practicable their burdens and sorrows, extending to them as often as circumstances suggest the hand of sympathy, encouragement, and love. Let them get from us their ideals and standards of life rather than from those pseudo-friends who exploit them through appeals to their ignorance, prejudice, and baser passions, and who prey upon their confidence in the name of a common unworthy cause. The palatial temples of labor whose golden domes rise in exultant splendor throughout the nation, the millions of dollars extracted annually by the jeweled hand of greed from the pockets of wage-earners and paid out in lucrative salaries to a ravenous band of pretenders, tell the pitiful story of a slavery such as this country never knew before.

"It is your duty to break the shackles that have been forged upon the wrists of those who labor with you by showing them in your daily contact and attitude that you are their best friends and that it is not necessary for them to follow the false leadership of designing pirates who parade in the guise of the workingmen's friends. That labor has the right to organize nobody denies or has denied. As far as it uses its organization constructively and in the right manner, it is a good thing and ought to live. But when it becomes the champion of lawlessness as at Herrin and elsewhere, or when it claims superior rights to other citizens such as special representation in every agency of government, local, state, and national, or when it takes from the wage-earner more than it can and will return to him in substantial benefits honestly obtained, it becomes dangerous as an organized force and should be forced back into legitimate channels of service."

DR. BENJAMIN ANDERSON'S ADDRESS

Dr. Benjamin M. Anderson, Jr., of the Chase National Bank, New York, speaking on the underlying factors in the business situation, said:

"By what right can the banker or the business man assert his claim to leadership in public opinion? By the right only of taking first a broad and an unselfish point of view toward public problems, looking beyond his immediate business to the interests of the country at large, and without any disparagement of the man in a particular business, I want to claim for the banker that his work makes it easier for him to do that than for the man in the particular trade, because the banker has among his customers men in every trade, and the banker in a metropolitan center has among his customers men in other banks in every part of the country. His business interests are therefore broader than the business interests of any of his customers. So that it is easier for him to take a comprehensive view of the general interests of the country.

"As an individual, as a citizen, the banker cannot make any such claim. There are in every business men of the broadest public vision and of the broadest unselfishness, but the bankers' training makes it rather easier for him, assuming that he is equally a man, to take this broader point of view.

"We can assert a right to guide public opinion if we approach public problems with breadth of sympathy and patriotic concern for the welfare of the country as a whole, and if we burn midnight oil, if we work long hours in the study of the problems that we pretend to teach the people about.

"Now, it is up to us to do it. We can gain that leadership and earn it and keep it, if we earn it. It is a most gratifying thing as I have watched the last ten years of American business and banking, to see an ever-growing number of business men and bankers who are gaining the confidence of the American people, who are listened to, about whom it is not asked when they made a public utterance, 'What is he trying to sell?' but where the utterances really are listened to as worthy of public respect and public consideration. Let us increase the number. Let us lift the ideals higher and let us keep them higher.

"Following several months of the most intense industrial activity, with rapidly rising prices and expanding credit, we have had, for the past five or six weeks, a period of distinct reac-

tion in many of the speculative markets and a very distinct slowing down in wholesale buying, with some recession in wholesale prices. The week-end reports indicate a continuance of this reaction. Despite hesitant prices and reduced wholesale buying, produc-



B. M. Anderson, Jr.

tion continues at a very high rate though there has been some slowing down in one or two lines.

"Business men generally are anxious to determine whether the tendency of the last few weeks represents merely a lull in the business boom or whether it represents a turning point. If I had a confident opinion on this point, I should be glad to express it. There seems to me, however, to be real uncertainty, and one should watch very closely the developments of the next few weeks. There is a strong body of banking opinion to the effect that the slowing down in buying and prices is altogether wholesome, that the pace of the earlier months was altogether too fast, and that, by slowing down judiciously, we are going to be able to prolong the period of good business very substantially and to avoid the serious reaction which would undoubtedly have followed a continuation of the pace of the first quarter of the year.

"This view is probably right. It is certain that the general credit situation is strong and that, with the present cautious attitude of business men, there is no possibility of any real credit difficulties. It is, moreover, entirely safe for business men to go ahead producing on order and producing for markets which are clearly in sight. It would be very unwise to expand plant or to make speculative commitments in

the present situation, but there is little disposition to do this. The business situation to-day does not seem to have the unlimited possibilities of expansion and profits which shortsighted optimists thought they saw in it two or three months ago, but it is probably the best and healthiest business situation which we have had since the boom began in 1919.

"We really have no valid ground for expecting intense, uninterrupted prosperity, with the present situation in Europe, and with the lack of equilibrium throughout the world which results from this. Europe's withdrawal from her pre-war position, as the world's manufacturing center and as the world's great market for foods and raw materials, leaves the world unbalanced, with a relative scarcity of manufacturing activity and a relative excess of food production, raw material capacity and shipping.

"Out of this comes relatively high prices for manufactured goods and relatively low prices for farm products and for those raw materials where capacity production obtains. The drastic and thorough liquidation of 1920 and 1921 has placed us in such a strong credit position that, even with these disadvantages, we have a right to expect living business and modest profits, but boom symptoms in an unbalanced world are danger signals. The present spirit of caution and the great disposition to slow down are to be welcomed.

"There is no such thing possible as a general over-production, if proportions are kept right. There is no such thing possible as a general excess of supply over demand if a balance is kept. We produce and consume immeasurably more than the world produced and consumed a hundred years ago. We in the United States produce and consume immeasurably more, both per capita and as a whole than China does. We consume more because we produce more. We produce for the purpose of consuming. A supply of wheat comes into the market; well and good, but also there is demand for silk, for automobiles, for sugar and for other things that the wheat producer wants. A supply of automobiles come into the market, but also there is a demand for cotton, for sugar, for wheat, for other things that the automobile producer wants. And so with every other commodity, its supply of its own kind, but its demand for other things and therefore supply and demand in the aggregate are not merely equal, they are identical, since everything may be looked upon both as supply or as demand, depending upon the point of view."

ZENAS W. BLISS'S ADDRESS

Zenas W. Bliss, formerly Lieutenant Governor of Rhode Island, and present Chairman of the Board of Tax Commissioners of that state, discussing taxation, said:

"There is unquestionably ample opportunity to improve on our methods of taxation both in the direction of a more equitable distribution of the burden and in relief from annoyance and interference, but the weight of the burden to be carried by the taxpayer, you must not fail to remember, is determined by public expenditure, not by tax laws or tax officials. Some of the relief which you desire, and doubtless should have, must come, if it comes at all, through a reduction in public expenditures.

"I am far from advocating public extravagance, but it should be borne in mind that to merely refrain from expenditures in themselves do not mean much. I am aware that there is probably no great or immediate danger of reducing public expenditures below the point necessary for proper expansion and improvement. It is well, nevertheless, to keep this fact in mind; that whether our expenditures are extravagant, niggardly or well balanced, the necessity for providing the funds to meet them is imperative. Sooner or later public expenditures must be met by taxation. The amount you should pay will vary in direct proportion to expenditures, and therefore public expenditures as well as taxation demand your attention and constructive criticism if your tax payment are to be kept at the proper level.

"The first and most important step in the direction of improvements in our systems of raising revenue by taxation and otherwise is to demand and to obtain for tax officials at least as

high a degree of special training and experience as are required of officials in other departments of similar importance.

"The legislative body in the last analysis is the determining factor, and all the advice of highly trained experts and all the results of special investigating committees and commissions will be of no avail if not enacted into law. It is often necessary to concede something to prejudice, political expediency or the strength of one or another faction and it frequently happens that it becomes not a question of what is the best thing to do, but what is the best thing you can get done under the circumstances. We must often be satisfied with the best system we can get rather than with the best one we could devise. It is necessary, therefore, to pay some attention to the election of competent legislators as well as tax officials, if improvement is to be made and good results perpetuated.

"The demand for revenue is now so great, and will continue to be so for such a considerable time, that it will be impossible to avoid, what seems to us at least, a very heavy burden of taxation. Our only relief lies in an equitable distribution of the taxes. Up to within a very few years we knew very little of taxation as compared with European countries. The amounts taken by taxation were so small, actually and comparatively, that taxes could be avoided or shifted onto the careless or unwary without any very great harm resulting. The situation no longer exists; an unscientific distribution of the very considerable burden we now have to carry will be sure to have bad effects on business and individuals alike, through a disturbance of our economic equilibrium. I am quite well aware

that taxation is not the only possible disturbing factor, there are numerous others very likely, at least, to exert a disturbing influence, but this makes the need all the more urgent that the effects in this regard from taxation be minimized so far as possible if they cannot be eliminated altogether. It is necessary that a broad minded attitude perhaps even a rather generous attitude, be maintained in dealing with the situation if the best results are to be obtained, any other attitude is potent with grave possibilities.

"My general conclusions are: that simplicity in matters of taxation as the term is usually understood is neither to be expected nor is it to be desired, but that a balance must be struck between simplicity, ease of administration and equity in the distribution of the burden; that the subject of taxation necessarily has become so complex because of our highly developed industrial, commercial and social life, that it cannot be adequately treated except by means of laws drawn with such care and nice distinctions that study and special training are necessary to understand them readily and interpret them correctly; that improvements in system and administration will come somewhat gradually through education of the general public and a realization by it of the relation between taxation and public expenditures; through careful and painstaking attention to civic duties on the part of the taxpayers in municipal, state and national affairs, through co-operation of taxpayers and tax officials generally, having particularly in mind interstate comity; and through the establishment of friendly relations between taxpayers and tax authorities, based upon mutual confidence and the mutual desire to attain a common object—the practicable equitable distribution of the tax burden."

Special Fellowship Luncheon

BY way of offering a diversion from the usual convention proceedings, a special Fellowship Luncheon was given Tuesday noon. This feature surpassed even the most optimistic expectations as more than seven hundred persons sat down at the tables. Will Rogers, the cowboy comedian, was the feature speaker for the occasion and he provided continuous entertainment with his blunt thrusts at business and industry. But, the toastmaster also contributed much to the

merriment by his references to the speaker, calling him "the weeping philosopher," and saying he needed no further introduction.

As soon as the applause of greeting died down, Mr. Rogers said:

"I'm glad I didn't need any further introduction. I am glad you stopped when you did.

"Now, I am mighty glad to be here with you all because I have been buying, I guess, not very much but my little share of products perhaps that

some of you have manufactured for years. A gentleman told me that every branch of the manufacturing industry is interested here directly in some way, and so remembering some of the things that I have bought in the way of wearing apparel or anything else, or had to use in various forms, I am glad to get here and appear before you once. Because I have bought and used things in my time that I would have loved to have met the man that manufactured it.

"So I want to take this pleasure and time to tell you just exactly what I think of you. I can't tell each one personally but I can tell you collectively some of the things, you know. I am here representing the buyer, see?"

"I have spoken around at so many affairs lately that I have gotten to be a regular pest, so about two weeks ago they sent out of town and brought on a speaker here in this very room. They got him from Washington or around there, Warren something or other, I don't know what his name is. They had him here; he was good, too. He touched on the humorous side more than I do. I came down to hear him but I don't think he made good; they let him go on back. He came here to try out an act. Mr. Harding is going to make a tour of the country and he don't know exactly what to talk on, see? You know, he really don't; he don't know just what the people are thinking about and what they want so he came here to try out this International Court Act and see if it would go, and so he went back.

"I would like to advise him in my little way what the people in this country are interested in, see? It is not any International Court, and it ain't any League of Nations and all that junk. The people in this country want to know where are we goin' to park our cars? We want to know who is the latest dancing champion and how many hours she danced. We want another orange in these orangeade stands. We want to know—can Willard whip this Firpo? Those are the things this country is interested in right now. They don't care anything about what Lenin is doing or Bonar Law, or any of those birds over there.

"I see now where he's going to Alaska and coming back by way of the Panama Canal. Everybody who gets a job in Washington has to go through the Panama Canal at some time in his life. A bunch of Congressmen the

other day left Omaha and Kansas City—left Omaha, Nebraska to get to San Francisco by way of the Panama Canal. In the old days our politicians could go from Washington to San Francisco in four days. Now, since the Panama Canal is built, at Government expense they can make the trip easily in eighteen or twenty days. I haven't any desire to be elected to office; only I would love to some time, just to see what the Panama Canal looks like.

"Now it seems like you fellers hold these conventions 'round. There was another mess of you here last week—this Chamber of Commerce crowd! That was another gang that was here. That's a great bunch of men! I have had experience with them in some of the towns around which I have visited and gone to the Chamber of Commerce. That's the resolution passing end of the United States. Every village church, must have its ladies' sewing circle and it seems the men must have their Chamber of Commerce.

"Anything comes up—the Chamber of Commerce holds a meeting, you know, and they will pass a resolution; stop right there, you know! See? Wonderful, you know, how serious these organizations take themselves.

"I am glad to be here among such a notable company because on the left hand side here we have got a former Governor of Rhode Island and a few years ago when I came back here I went up through New England. I wanted to see how many states I went through on my way. I come from out in Oklahoma, just a country boy and I wanted to see everything I could. I was going to Boston and I said to this darky porter: 'Tell me when we get to Rhode Island. I was never through here before.' He said, 'All right, I will tell you.' He came back in a little bit and said, 'Boss, I was up two cars ahead and before I could come back here, we done passed through Rhode Island.'

"Then we have over here on our right an ex-Governor of Tennessee. Tennessee is noted in the old days before Mr. Volstead's time for the fact that they manufactured over half of the liquor consumed in this country. Old Green River and all that stuff came from Tennessee. That was during the time that he was Governor when they did all this. Prohibition went in. It just shows you what it will do for a state. Prohibition went in and now they manufacture over three-fourths of the supply.

"We are holding another peace Conference over in Europe. I really don't know where it is. They shot a Russian there the other day and the Russians sent them a note and said, 'Here, we will do all our shooting at home.' That was the Lausanne Conference. We have no representative over there. We didn't have anybody in Washington who know where it was. I hope we don't go to any more peace conferences. America has a very unique record. We never lost a war or won a conference in our lives.

"Of course we won't have any more wars. England wanted us to join in last fall and help them fight Turkey but we could not go into another war. We are two bonuses behind as it is. We could not go into a war anyhow. We haven't any slogan. We can't use the one we used before. England wanted us to go down there and help fight Turkey. Turkey had very hard luck last month. They had a war booked and had it cancelled on them. It ain't like it used to be. You have got to book your wars ahead now.

"It might be news to you to know that Turkey is the only other prohibition country in the world—us and Turkey. There is a fine gang to line up with ain't it? Our Allies."

At the conclusion of Mr. Rogers' talk, Mr. Edgerton said: "I think you will remember the promise I made that this occasion would be most delightful from soup to nuts."

FROM THE PRIME MINISTER OF FRANCE

Washington, May 15, 1923.

Dear Mr. Edgerton:

I have just received from Prime Minister Poincare a telegram which he asks me to forward to you.

I take great pleasure in doing so and you will find herewith the translation of his dispatch. Believe me, with best regards,

Sincerely yours,

(Signed) JUSSERAND.
Paris, May 14, 1923.

At no time has industry played a more important part in the world.

American industry is in the foremost rank, and everybody knows that its efficient collaboration is always granted to all undertakings having for their object the amelioration of the fate of humanity.

(Signed) POINCARE.

Strong Open Shop Session

Reports that the Republican party is being urged to declare for the fullest freedom in employment relations make the subject of greatest importance and the broad policy of industry is outlined

WITH reports that efforts are being made to induce the Republican party to include the open shop in its platform, for the coming presidential campaign, this session of the convention assumed unusual importance. Not only did Mr. Edgerton, in outlining the policy of the association, emphasize that the open shop stood for individual and collective rights guaranteed by the Constitution of the United States, but other speakers kept this fundamental thought uppermost.

S. W. Utley, president, Employers' Association of Detroit and member of the Open Shop Committee of the association, presided.

In opening the meeting Mr. Utley said:

"I think all of you will agree with me that there is perhaps no question before the American people to-day of greater importance than the question of the open or the closed shop. When a time comes when a young man just embarking on a useful industrial life feels that he can't pick out the work he wishes to follow without first consulting a labor leader; when the time comes that a man of maturity cannot apply his trade and capitalize his industry and ability for himself and his family unless he appeals to a labor leader for his permission to do so; when the time comes that a workman cannot put forth his best efforts, but must hold himself down in order to make his work equivalent to that of the slothful and the indifferent, then the time has come when liberty has ceased to exist and when the very foundation principle of our Govern-

ment has been changed for a new and untried one.

"Our whole industrial fabric to-day is built up around those leaders of industry who have come up through the ranks and who have started in in our shops and become the leaders of our commercial, our industrial, our banking world.

"Can you imagine any leader of to-day having become a leader through closed shop conditions, disregarding those men whose sole function is to act as officers of organized labor? I challenge you to find in this country a single man who has arrived at a position of industrial leadership and who in so doing has been subject to the closed shop, and to its conditions.

"When the radical wing of the closed shop advocates talks to you about substituting a red flag for the stars and stripes, don't laugh at him; he is a whole lot more logical than we are, because he realizes that the flag of a republic which is dedicated to the protection of individual initiative and individual freedom has no place waving over a closed shop. He realizes that if the time ever comes—as he hopes it will—when this country will be 100% closed shop, the time will come for that flag to come down and to be replaced by the red banner of socialism, of which the closed shop is a part and a disciple. If that time ever comes, I don't know what we shall have—whether it will be another Russia, whether it will be a state akin to the Middle Ages, whether it will be chaos, but of this I am convinced: That it will be America, the Land of the Free and the Home of the Brave."

THE ASSOCIATION'S POLICY

Mr. Edgerton then presented a statement, outlining the association's position and policy as follows:

"The question of the open shop is simply one phase of the fundamental doctrine of the right of free choice with which every man is born, giving to individuals the right to choose their church affiliation, lodge affiliation, lines of endeavor and their life companions. This principle logically extends to the question of affiliation or non-affiliation with labor organizations.

"We advocate the open shop not

because we oppose any right of individuals to combine for lawful purposes; but primarily because we believe it maintains fundamental rights of all citizens, both employers and employed. The open shop will surely fail if considered solely as a selfish proposition. Our greatest reason as employers for maintaining and unholding the open shop is that it represents an obligation owed by us in the struggle to preserve and protect the principles of American liberty and independence.

"Employers operating on the open

shop principle recognize that they cannot discriminate against individuals on account of mere membership or non-membership in lawful labor organizations operating in a lawful manner. Advocates of the closed shop, however, both in theory and practice, deny this principle of free choice and insist that in order to obtain work men must belong to their organizations in order to obtain a chance to earn a living for themselves and their families.

"The question of the open shop does not involve the principle of collective bargaining. Under the open shop both collective bargaining and individual bargaining are possible, and the system which will actually prevail must depend upon the particular conditions in a particular establishment.

"There is no reason why a sound constructive unionism should fear for its life under open shop conditions. Unionism based upon the principle of association for mutual advantage by increasing the efficiency of the individual workman would, I am sure, meet with the co-operation of employers. Yet it is rare indeed, to find any union to-day which declares that men should increase their wages by increasing their efficiency. Emphasis is laid instead on the ability to increase wages through the power of collective monopoly held by the union organizations.

"The manufacturers of this nation must begin to think more and more of their obligations and to insist less upon their rights. If management and workers in this country were striving in all ways to fulfill their obligations to one another and to society, the industrial problem would very nearly be solved. The responsibilities of industrial managers impose upon them a vast duty. In recognizing their obligations they must have ever before them the aim of the square deal in industry.

"The spokesmen for the closed shop unions in this country have made repeated claims about the huge amounts of money spent in advocacy of the open shop. Yet, careful studies made under the direction of the Open Shop Committee of the National Association of Manufacturers show that union incomes in this country aggregate \$184,000,000 a year as contrasted with an income of all open shop employers associations combined of \$5,700,000. The employers associations, in other words, average slightly over



How some of the guests of the Annual Banquet looked to Sid Greene, the cartoonist of the New York "Evening World." (Reproduced through courtesy of the "Evening World.")



THE ANNUAL BANQUET OF THE
At the speakers table (left to right): Earl Constantine, Charles T. Webb, Col. M. C. Rorty, Rear Admiral Plunkett, Willis H. James A. Emery, H



NATIONAL ASSOCIATION OF MANUFACTURERS

Secretary of the Navy Edwin Denby, John E. Edgerton, Ben W. Hooper, Stephen C. Mason, Charles Cheney, Vice-Admiral J. D. McDonald, Leland and B. M. Robinson.

three per cent as much per year in their combined expenditures, as do the closed shop unions of the country. There can, of course, be no objection on the part of employers to unions raising large sums of money from their members. We thoroughly believe, however, that the public should know the true facts about the claims that open shop employers organizations are spending huge sums of money in support of the open shop. The average unionist in this country gives three per cent of his gross annual income to the unions to which he belongs. Not one employer in ten thousand in this country gives anything like three per cent of his gross income to all of the various business organizations to which he belongs.

"But even with the comparatively meagre amounts spent in behalf of the open shop much has been accomplished in obtaining the support of public opinion in the past few years. The National Association of Manufacturers, for example, has recognized that no industrial policy, whether open shop or closed shop, or any other, can permanently succeed without the support of public opinion. We admit and even claim as one of its justifications that the open shop increases the income and prosperity of business. It has been definitely proved, however, that long continued closed shop control of industry results in stagnation,

which means less employment and less chances for workers to earn a livelihood. In making our appeal to the public, however, we stress the fact, and have demonstrated it conclusively, that the open shop as a principle promotes the public welfare.

Supplementing the statement, Mr. Edgerton said:

"I think that a principle, when once its identity as a principle is unmistakably established, is worth dying for. Some people get their principles mixed up with their theories and with their opinions and with their interpretations, so that it is very difficult for them to differentiate between a mere opinion of something and their fundamental principle with reference to that thing. I think the Open Shop principle, as defined in those declarations that I read you, and as interpreted by the average person in this country who is best informed on this subject, is worth any cost that a man can pay for the preservation of it, and I think it is at that point where the American manufacturer has fallen down. A man may compromise his opinion with the preservation of his self-respect. He may recede from a theory with honor; he may revise his philosophies and ideas of life without the sacrifice of self-respect or any honor, but a man cannot abandon a principle—a real principle—without the loss of honor."

ERNEST T. TRIGG'S ADDRESS

Ernest T. Trigg, president, John Lucas Company, Philadelphia, said:

"If the relations between employers and employes had been in all cases right and sound in the past, no such terms as open or closed shop could have arisen. The beginning of the development of the type of labor organizations a quarter of a century or more ago, which included in their principles the fundamental propositions that no man should be permitted to work in an establishment who did not belong to the union and that all of those engaged in a particular trade and establishment should receive equal compensation without reference to skill, energy and service rendered, has been the cause of the open shop movement. Nevertheless, it is a situation which must be charged to the employer that conditions which permitted such wrong and tyrannical forms and types of organizations have grown.

"No matter how friendly the scheme of industrial relations, it is a fundamental principle which cannot be side-stepped, that the employer must be held primarily responsible for the rela-

tions between himself and his workers.

"The employer, because of his position, must be distinctly the leader of those under him, if there is to be effective organization and teamwork. If the man at the top is not a man of suitable capability for leadership he is certain to be the cause of difficulties in his organization and discontent among those under his direction.

"To have loyal and dependable employes, the employer must be loyal and dependable himself. I do not hesitate to say that the greatest business asset any employer can have is the genuine faith and confidence of his employes. This the employer cannot get by merely wishing for it or announcing that he is entitled to it. It comes only where it is deserved. It takes years oftentimes to demonstrate to a group of employes that their employer is their best friend.

"The proper sense and assumption of this responsibility of the employer is ordinarily as essential to the prosperity of the establishment which the employer directs and therefore of both employes and those who may be financial-

ly interested. Furthermore, where an employer, through his wisdom, has been able to develop the proper loyalty to himself and his institution, among those under his command and create a spirit of harmony and good-will which permeates to the private and civic life of all of those who are associated with him, the result is good citizenry.

"On the other hand, where an employer has neglected or been incapable of creating proper loyalty and co-operation, the result is not only less economy and prosperity in his business but the discontent and dissatisfaction thereby engendered in his work place is carried by his men into the communities in which they live, with the resultant growth of unsound civic and government conditions and policies.

"Work places should be maintained in such a way that there is a maximum degree of health and safety. Full opportunity should be opened to every employe to develop his capacity to the utmost and to receive the substantial recognition his capacity warrants. There should be fair compensation for services rendered and there should be reasonable continuity and assurance of steady employment.

"Compensation which is not reasonably in accord with that paid for similar services elsewhere in the same community is certain to lead to discontent and to an unstable force having large turnover. Under such conditions it is impossible to get the highest production of which the employes are capable. This compensation, moreover, should be of a standard which will enable the employe to live as an American citizen should, bring up and educate his family and lay a little something aside for the rainy day and old age.

"The item of continuity and assurance of employment is of equal importance to that of wages. The danger of losing his job is to the married man, with children to support, a nightmare of most serious character, and is bound to bring with it not only nervous worry but discontent. It is, of course, impossible for the employer to always be assured that he will have steady work for those who he employs, but it is certainly a subject to which he should give careful thought and which should be taken into careful account when making plans for the future.

"Since the war, employers have undoubtedly been growing more appreciative of their responsibility for the attitude of men under them and for the conditions which exist in their work places. In some of our great establishments, good-will and sound conditions have been firmly established, where danger of strikes and other dis-

turbances have been reduced to a minimum and where production and stability of force are a maximum, but unfortunately those cases in the industrial world are still all too few. The full awakening of all employers to their responsibility cannot safely be delayed. Conditions are critical.

"The closed shop, if extended to all business and industry of the United States, might easily bring about much the same disastrous national events as have been occurring in Russia.

"The American Declaration of Independence with its immediate supplements, the Articles of Confederation of the Colonies and the Constitution of the United States specifically set forth the right of every man to freedom and the pursuit of life, liberty and happiness. They are in distinct harmony with the plans of the true open shop or American plan of Employment under which neither employer nor employee shall be hampered by others in making contracts for employment, so long as he shows due regard for the right of his neighbor, and under which no employer will question the right of his employees to civil affiliations so long as such affiliations do not interfere with the efficiency of his work, loyalty to his workshop, and his willingness to follow the leadership of his employer.

"If we would have the true open

shop and the prosperity and happiness which come with that and the other conditions of proper industrial relations, we must primarily do two things, first, our employers must fully assume their full responsibility to develop such conditions among the workers of their own individual plants, and second, we must more highly educate our whole people in the processes and costs of production, transportation, and distribution of the commodities which we produce and use. This education must extend to both employers and employees.

"The National Association of Manufacturers, as the most representative body of industrial leaders in the United States, should be the directing spirit at devising and carrying through education of this kind. Every opportunity and channel should be utilized. You are to be highly commended on the many valuable constructive contributions your association has already made to the available knowledge on this subject. It is only by the leaders, such as are in your organization—pooling their experiences and their visions—dealing honestly and patiently with the problem, always making some progress—that we may hope to eventually find that ground of equity and justice—which will be universally recognized and accepted by employers and employees alike."

CAPTAIN DOLLAR'S ADDRESS

Captain Robert Dollar, president, The Dollar Steamship Lines, said:

"Five years ago the labor unions tied up the entire port, the harbor of San Francisco. Ships were all tied up, and we started to try to load and discharge our ships. During that time every day an ambulance went to the receiving hospital with our men—every day, sometimes twice a day. We were very peaceable and harmless kind of fellows and we didn't send any ambulances of good union men.

"We had a meeting in the Merchants' Exchange, the biggest meeting that ever has been held before or since—to decide what we were going to do. Unfortunately, they asked me to talk at the meeting and they said: 'How are we going to settle this tonight?' I said, 'As long as we continue hauling our men to the receiving hospital and the other fellows stand by, we are never going to get anywhere, and I propose that to-morrow morning starting in, when they compel us to send one ambulance to the receiving hospital, we send two of theirs.' There were a lot of good

union men there and you could hear them groan.

"When the meeting was about to adjourn the chairman said: 'Gentlemen, we will enter into this thing in dead earnest and we need money, and I demand that you subscribe a million dollars before you leave this room.' It didn't take more than ten minutes to get the million dollars subscribed. It never was called in.

"The next morning our merchants assembled in a place where many of them had never been before, that was the police court. The police judge had been having these cases before him and every one of them was dismissed, and when the police judge—I will never forget it; I was sitting in the front seat—came in and looked around at the bunch that was there, he turned as pale as that sheet of paper, and he said, 'I can't hold court with all you men standing up. You men standing up must go out into the hall.' One man remained. He said, 'Sir, I told you to go into the hall.' He said, 'I am the foreman of the Grand Jury and I am going to get your scalp. That is what I am here

for. Good-bye.' He said, 'Hold on, you sit down and wait a minute, stay here.' He got another man to vacate his seat.

"That is how the strike was settled. I happened to be one of three that were making the strike. We got word at the adjournment of the meeting that a man had been killed at the foot of Market street, the principal street in San Francisco. He was a man that was coming into town, a stranger, and they thought he was a scab and they massacred him. We were told of this. So we went to the District Attorney and told him what had taken place and what was going to take place, said, 'We have formed a Vigilance Committee and to-morrow afternoon if something isn't done to-morrow morning, you are going to be strung up to a telegraph pole.' He looked at me and said, 'Mr. Dollar, do you mean that?' I said, 'Look at me and see if you think I do.' He said, 'I have looked at you and you are in dead earnest, I think.' 'Well,' I said, 'I never was more in earnest in my life.'

"I want to tell you that the thing collapsed so fast and so much that there never was another man assaulted on the waterfront of San Francisco after that. The thing ended right there.

"It is bad medicine to take and it isn't a good thing to do: you see the position it puts a fellow in. I was taking lunch in one of our biggest restaurants and there were two gentlemen who came and sat down one on each side of me. They happened to be two Bishops—the Bishop of the Church of England and the other was an Episcopal Bishop. They said, 'Mr. Dollar, we have been told what you did about this strike and we want to know if it is true that you propose violence, terrible violence?' I said, 'Yes, that is true.' They said, 'Are you the President of the Young Men's Christian Association?' I said, 'Yes.' They said, 'And do you think it is consistent for you to talk like that?' I said, 'I have been reading in the New Testament lately and I found where St. Paul said, 'As much as lies within you, live at peace with all men.' I said, 'I have lived at peace with those sons of guns so long that now I am out for war.'

"One of them said to the other, 'Come away; it is no use talking to him.'

"Now the condition is entirely changed. I mention San Francisco because I repeat again, there was no city in the world, I believe, that was so tied up with labor unions. No man could blacken your boots there unless he had a union card in his pocket. The whole city was absolutely tied up. Now we have open shops and everything is going well.

"Now, what I claim is this: that we want to get closer to our men. The unions are right in what they claim—that they must now allow the men to talk to their employes, keep them away from them, and they will tell their men: 'Don't you be seen talking to your employers; we will do the talking.' They are radicals of the worst kind and practically nothing can be done with them. For instance, the marine engineers, with whom I have a good deal to do, are a fine body of men, as fine a body of men as there are in the United States. They got some radical leaders and they joined the American Federation of Labor and went out on a strike. The result of it was, with all the other strikers it was disastrous, they got beaten hands down. They formed another organization with the best leaders that they possibly could get.

"What's the result? Once a month they come to a luncheon of the steamship owners—several of them—and they sit there and discuss any trouble

that they have. Do you think that it is possible to have a strike under those conditions? It can't be.

"We are all inter-dependent; there is none of us independent. I say that from personal experience. We are depending on our men and they are depending upon us. You take myself; I have offices throughout the world. What can I do to conduct that business of mine, standing here, throughout the world? I have got to depend upon the men. We must depend on our men.

"I will emphasize that by reading to you one verse of what Kipling said: 'It ain't the guns or armament

Or the funds that they can pay,
But the close coöperation
That makes them win the day.

'It ain't the individual

Or the Army as a whole,
But the everlasting teamwork
Of every bloomin' soul.'

"That is what counts; that is the real thing."

EDWIN H. MARBLE'S ADDRESS

Edwin H. Marble, president, Curtis & Marble Company, Worcester, Mass., said:

"While good-will and mutual interest or co-operation between employer

interests be shown by any graphic chart. These are human conditions and circumstances and only as such can they be considered. The speaker has been for over 50 years with one establishment and that establishment has had an existence of nearly twice that length of time without any break in the friendly relations between those directly interested.

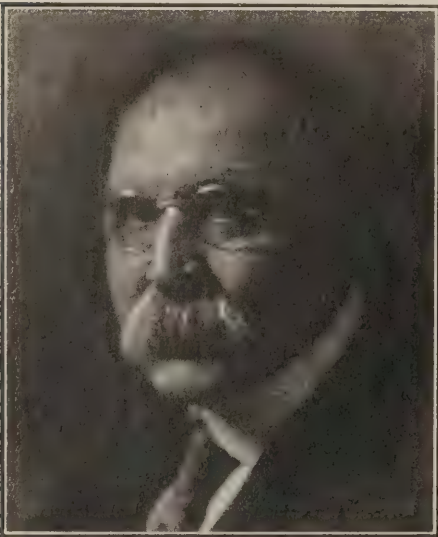
"In adding to the working force of any establishment one does not need to ask an applicant for his religious credentials. If the applicant is known to belong to or has been associated with an organization that has no religious beliefs or if he shows himself to be in sympathy with movements that are recognized as not being beneficial to the

country, how natural it is for the applicant's hand to be found very close to the outer knob of the door!

"One would naturally expect men to have enough religion to recognize the difference between right and wrong and have enough conception of the meaning of the Golden Rule to understand its application to his and to your everyday life, but you do not expect him to be a Congregationalist or an Episcopalian simply because you are one. Such a qualification as that has no productive value. You are not under any obligation to add an Oddfellow or a Knight of Columbus or a member of any other organization to your payroll, but you do desire to add a man who, regardless of the token which he possesses has hands capable of productive ability and one who has a head upon his own shoulders which can govern and direct those hands.

"Good will among men brings contentment. Much of the worry which handicaps the human, comes from without the shop in which he is employed. We do not say all, but much of this—the man may not have confidence in the ability of his firm to make good in the industry. He may not have confidence in the steady continuance of the particular line of products with which he is directly associated. Worried workers are not willing workers. A contented workman wishes to avoid all the worries possible—he rarely seeks to connect himself with any movement that may be the cause of worry. Particularly true is this when worry is brought about by the discontent of some other human. He does not like to be called upon to assist in providing for a worker in a near or distant city, who through his own lack of content, is willing to break up harmonious relations.

"Good will is one of the fundamental principles of business economics and we seldom put enough of it into use."



Edwin H. Marble

and employed have much to do with a favorable and workable understanding of the open shop, how to encourage the greatest amount of good will and how to bring about the closest co-operation is in many instances a question that must be settled by each individual establishment.

"Good-will cannot be measure with any yardstick nor weighed in any balance nor can co-operation or mutual

Henry M. Leland, after paying a compliment to Captain Dollar, spoke of some other phases of the open shop problem, sounding a very pertinent word of warning. He said:

"There are certain other phases, however, that I might touch on just for a moment—certain other phases which, while they are not directly concerned with the open shop, have a tendency to lead toward the closed shop—and I refer now to the 400,000 agitators and communists in this country who are working on the job night and day, constantly, who are getting the ear

of the foreigner, who are getting the ear of the man who isn't treated as Robert Dollar and Mr. Marble say their men are treated, and as all men ought to be treated. These men become susceptible to these influences of the agitator—and we are doing so little about it.

"The foreigners have been coming to our shores until recently in great numbers, and let us be men and let us be frank about this situation—we have neglected them! We have attended to our own affairs; we have attended to our golf; we have chased the golf ball

HENRY M. LELAND'S REMARKS

all day and had nothing left but the ball at night; we have done all sorts of things—we have gone amusement-mad, as a nation—15,000,000 people attend our movies every night—but we haven't had time to attend to those millions of foreigners who come here; we have left them to the agitators, to the miserable fellows who were ready to use them for their own personal gain. That is where we have made a great mistake.

"If there is one thing in the world that I want to plead with you men for, it is from to-day on to take an interest in those foreigners, to see to it that they are treated fairly; to see to it when they get into court, that they have somebody to represent them there.

"My plea to you gentlemen is to be better citizens. Josiah Strong said that

the great curse of this country, the great menace of this country, the great danger of this country, lay in the bad citizenship of good citizens. Do you get it? The bad citizenship of good citizens! That refers to the man who chases the golf ball most of the day and hasn't time to know who is going to be a candidate for the Legislature, to make his laws for him.

"If you don't attend to this, these 400,000 bolsheviks that are training men every day, in every city in this country and getting them influenced; if you don't come to the rescue and take some interest in this thing, then this greatest Republic the sun ever shone upon is on a greased toboggan and it is going like blazes down to the foot of the hill straight to hell!"

CAPTAIN WHITE'S REMARKS

Captain William P. White, of Lowell, Mass., said:

"It is time for those who are investing their money in building and plant extensions to see that the proper type of labor is employed. It is within our hands. We can control the situation whenever we are minded to, and you people who are insured and know that the premiums from your policy are to be invested in New York Real Estate, might well look to the fact that it would be better for you to insure yourselves on some other place, because the money

that is now being put into New York buildings obtained by easy borrowing is going to be very difficult to get back again. One-third, already, of the income to New York City goes to pay the interest on our debt and the labor condition in New York City is getting worse and worse every day.

"Here is an example, and it will not be so easy to open up in New York City as it was to clean up San Francisco, because in San Francisco, they have men, and I regret to say that they are not so numerous in New York."

ADOLPH MUELLER'S REMARKS

Adolph Mueller, of Decatur, Ill., said:

"I simply wish to state that my father started business in 1857, and the first

strike we had was in 1902. We became of the belief, after discussing matters with labor leaders, that it was the right thing to organize our factory,

so we organized our factory under a 20-month contract and we had more trouble in those twenty months than we had had in the previous years of our existence. There was more damage done; there were more windows broken, there was more machinery destroyed, and we could get less information from the men about the men than we could before.

"I arrived home from Europe last Friday. I want to make brief mention of conditions in England. I observed a great deal of the labor conditions there. Our business is in the water works line. Right around the corner from the Hotel Cecil where I was stopping they were making a water connection for a hydrant, and I asked one of the workmen how he was going to make the connection.

"'Well,' he said, 'to-morrow morning at seven o'clock we will turn off the water main. We will close all the water off in these blocks of buildings' (just like you have out here on 34th Street and Fifth Avenue), 'and will make a connection by hand.'

"I knew it would take a great many men to do that. I said, 'Do you know that there are machines for connecting that?'

"'Yes,' he said, 'we know that but we wouldn't be able to give employment to the number of men that we do if we connected by machinery, although it would take only 30 minutes.'

"Instead of that it took them four hours; they had to go to a great deal of inconvenience, and employ thousands of people because of their plan of protecting union men. I want to say that the great curse of England to-day is unionism."

FROM THE PREMIER OF CANADA

Ottawa, Ont., May 12, 1923.

J. E. Edgerton, Esq.,
President, National Association of Mfrs.,
New York, N. Y.

I much regret that my parliamentary duties will not permit me to be present at the twenty-eighth convention of the National Association of Manufacturers which opens in New York on Monday the fourteenth instant.

I should particularly have appreciated the opportunity to convey to the people of the United States an expression of the good will of their neighbors in the Dominion of Canada. We have learned something of the meaning and value of co-operation as between our two countries through the years of the past. The increase of international good-will which this co-operation has effected is deserving of our highest mutual endeavor through the years to come.

(Signed) HONORABLE W. L. MacKENZIE KING,
Premier of Canada.

G. W. BURGESS' REMARKS

G. W. Burgess, secretary, Open Shop Committee, Joplin, Mo., said:

"I just want to explain the way we handle the situation out there in Joplin. We are all open shop; every building in town is being built on the open shop plan. We have a plan there by which we confer with the property owners or the people who are going to build; we watch that, and get in communication with them, and we have inserted in their contract that they are to build that building open shop.

"Last year on the largest building we had constructed, the most radical man in town was figuring on it. We took the proposition up with one of the men who owned 51 per cent of the stock in the building; he lived in St. Louis. We took it up with him and endeavored to get him to build it open shop. He said it was impossible to build it that way, that he had his carpenters and his bricklayers and they all belonged to the union and he didn't see how he could build it open shop. But we finally convinced him that he could

build it open shop.

"So he took his men in and talked with them, his union men, and they agreed to try that building out open shop. Well, we had quite a time; they attempted to strike several times, but the strike never materialized. They sent for Mr. Fitzgerald from Chicago to come down and he came. This man took him out and he said, 'I want to show you; this is my line up out here, and I have always used the union. I want you to understand I have union carpenters and union bricklayers, but the electricians on this building and the plumbers are open shop. I forbid you coming inside.'

"Fitzgerald followed him back in. It was just about a half block away from the police headquarters, and the man called up the police department and asked them to come over and get Fitzgerald. When Fitzgerald got back to Chicago he reported, 'Joplin is a town that you can't touch; it is absolutely open shop. You can't touch their system, the way they handle it there.'"

OPEN SHOP COMMITTEE REPORT

The report of the Open Shop Committee of the association, C. D. Garretson, chairman, was read by M. S. Little. It stated:

"The friends of free American labor cannot but look with interest on the fact that one of the great political parties, according to the press of the

country, is being urged to incorporate in its next platform a declaration in favor of the open shop. The very fact that this question is being discussed from a political angle is unquestionably recognition of a well-founded belief, that the general public is opposed to the closed shop.

"The open shop question, however, is much more than one of political scope and it cannot, in the final analysis, be settled in the political arena. It is, rather, an economic issue, though in the philosophy of the closed shop leaders a menace to our political institutions and to law and order is clearly presented.

"The open shop principle is clearly recognized and embodied in fundamental national law. The real question is one of full and impartial enforcement of existing law and maintenance of order. If this were accomplished there would be no need of considering the political expediency of the open shop principle.

"America's position and leadership as an industrial nation has been built up under open shop operation. Our wages and the standard of living of our workers are the highest in the world and the highest known to history. Any increase in closed shop control of American industry would imperil our national economic standards and supremacy.

"Whenever the public has had both sides of the open shop question ade-

Private Employment And Open Shop

(Resolution Passed at the Open Shop Session)

1. Those rights of individual liberty and equality of opportunity which our Government was created to defend and for which our national institutions are founded must be recognized and preserved in every field of activity including that of industrial affairs. When the full enjoyment of these rights is denied to any individual, save through his own voluntary act or agreement, we have ceased to be a free people.

2. An Open Shop, as understood by this Association, is an establishment or business where employment relations are entered into and determined through the exercise of the individual right of contract on the part of both employer and employe and without arbitrary discrimination based upon the membership or non-membership of the employe in any lawful labor organization. The Association considers it the duty of the employer as a citizen to preserve and defend the right of open shop operation as an essential part of our national heritage of liberty.

3. When collective agreements are entered into between the employer and his employes, they should be the voluntary act of all the parties and neither adverse to the public interest or arbitrarily limit the opportunities of those seeking employment in a given trade or community.

4. Because of his position of leadership and his control of the factors of production and service—essential to society, this Association considers that an obligation or trusteeship to his employes and to the public rests upon the employer. It is his duty in the management of industry to give as well as to require efficient service, to protect the health and safety of the worker within employment and to give him every possible incentive and opportunity for improvement and advancement along lines suited to his abilities, and to take the initiative in the establishment of employment relations upon a basis of recognized mutuality of interests through fair dealing and frankness regarding facts and conditions affecting the common enterprise. The highest function of American industry is not alone to make profits, but to bring betterment of conditions to the worker as well as the owner and to make its product or service available to the public at a cost as low as possible through efficiency, co-operation and unrestrained effort.

5. Combinations, whether of employers or employes, because of the greater power of injury that results from concert of action, are especially subject to the obligation to respect the rights of others. The boycott and the sympathetic strike or lockout, when used by such combinations, are oppressive, cruel and intolerable weapons of industrial warfare necessarily involving injury to innocent third parties and the public and are without justification in law or morals,

quately presented it has decisively declared for the open shop. The closed shop advocates themselves have assisted in this by refusing to discuss the closed shop from the standpoint of public welfare. They have based their advocacy of the closed shop upon its alleged benefits to an organized minority element. The public has rejected such pleas; it is difficult to understand how the public can ever be expected to accept them.

"The National Association of Manufacturers has recognized that public welfare is the paramount consideration. It has repeatedly been demonstrated that the philosophy of the closed shop is a theory of force, monopoly, and destruction; that it represents a very real menace to our fundamental institutions.

"In the economic field our Open Shop Department has presented clear evidence on the public cost of the closed shop. It has, for example, shown that rent increases are much greater in towns where building is closed shop; that taxes are increased by the closed shop, since it costs 40% more to erect school buildings under closed shop than it does under open shop conditions; and that higher prices for commodities are largely controlled by closed shop production methods.

"It is the duty of American employers continually to make known to the public the community advantages of the open shop; they should likewise continuously maintain their open shops as desirable places to work in, so that workers will refuse to longer rely on the spurious promises of the closed shop agitator.

"We often think of the open shop as a definite plan or system or as a

solution of the labor question. It is none of these things. It is merely a shop that is not closed—where both union and non-union men may be employed and where the parties under the free play of economic forces may work out their relations with each other, just as people do in other walks in life. These relations take different forms in different shops. There is individual bargaining and different kinds of collective bargaining. There are profit-sharing and various plans of wage payment. There are also harmony and discord, coöperation and misunderstanding, good management and bad, over-reaching and fair play, for the parties in the open shop are the same humans we started with and the millennium is not yet here. But this may be said: In the open shop, management is not crippled in developing its full efficiency; the welfare of the particular shop is the basis of the relation between the parties; the opportunity to work and to develop his skill and earning power is not denied the worker; and the door to experiment and progress toward better conditions and relations has not been closed. Whatever defects, or weaknesses, or injustices are incident to the open shop, one fact must be clear, and that is that they are not to be cured or a better order established through the substitution of the closed shop.

"The employer organizes the forces of production. He is the natural leader of his workmen, and is able by instruction, example and fair dealing to bring to bear constantly upon them influences for right-thinking and action and for loyalty to the common enterprise. He cannot escape responsibility if he neglects this opportunity and they

become alienated and followers of false leaders and vicious doctrines. His position also carries with it larger obligations and he should consider himself not as engaged in business entirely for individual profit but as a trustee for the beneficial use of the forces of production that he controls. The making of profits can no longer be considered the sole test of business success. Industry has not performed its function unless it brings betterments of conditions and increased comforts to the worker as well as to the owner and unless its product is made available to the general public at prices as low as possible through efficiency, coöperation and unrestricted production. This broad view by the employer as a working principle in his own business and in his association with other employers is not altruism necessarily, but is being found to be a sound, constructive business philosophy.

"Careful study of the industrial situation has convinced your Committee that the majority of employers throughout the country are fully alive to the obligations they owe to the community and the workers as managers and guardians of industrial production. They are more accurately appreciative than ever before that their rights as American employers are also accompanied by corresponding responsibilities and duties. It is pleasing to note that the public generally recognizes that employers are placing American industry upon a progressively higher plane of efficiency and service. The wider degree of freedom permitted to managers of industrial plants, when open shop conditions prevail has contributed to this achievement."

The Platform For American Industry

WITH the view to concentrating the best counsels of the nation's industry to increasingly obtain "more business in government and less government in business," Mr. Edgerton, president of the Association gave a dinner on Tuesday night, to the members of the committee which in 1920 drew up a platform for American industry, substantially all of which was incorporated in both political platforms of that campaign. About a score of the original committee met and decided to hold a meeting in New York City on June 27 and 28, at which time the old platform originated by the National Association of Manufacturers will be revised and definitely shaped for submission to the leading political parties in the coming campaigns. Practically all of the industrial states will be represented at the

conference this month, including Alabama, California, Colorado, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Maine, Michigan, Mississippi, Maryland, Missouri, Minnesota, New York, New Jersey, New Hampshire, Ohio, Pennsylvania, Rhode Island, Tennessee, Virginia, Vermont, Wisconsin and Washington.

Political and partisan lines will be eliminated in the platform committee, and the planks to be decided upon will be shaped broadly in the light of doing the greatest amount of constructive good for industry and the pre-eminent advancement of the country as the basic impulse. Fifteen tentative suggestions have been drawn for submission to the platform committee as a starter. These include planks on law

and order, regulation of combinations, tariff, taxation and finance, immigration, transportation, merchant marine, war bonus, irrigation and forestry preservation, foreign trade, army and navy, federal highway department, federal purchasing department and correlation of the diplomatic and consular services.

Industrial and business men in general have taken a keener interest in national matters during the present administration than at any time in the history of the country and the manufacturers particularly have offered their fullest coöperation toward a better understanding of the problem of government and their solution. Through committees and individual effort they have assisted the Department of Commerce, Department of State, Department of Interior, Department of Agri-

culture, Navy and War Departments and the present administration in general without in any sense inflicting political opinion or pressure.

In 1920, meeting a demand that had nation-wide inspiration for placing the government on more than a business basis, the National Association of Manufacturers formulated its Platform for Industry. This platform was widely commended by the editorial

writers of the country as a real definite and valuable contribution to national development and with the election of the present administration, the manufacturers gave every possible assistance in the general effort to build national administration on business lines. They believe many of the platform promises have been faithfully and well kept; that others have been sidetracked by more important or more pressing mat-

ters; that others have been forgotten and that still others have been manipulated out of all semblance to the original. Confident that the general business betterment of the country demands a stricter fulfilment of the policies then laid down the manufacturers will re-shape their platform in the broadest possible way and stand back of it with the best of their advice and full coöperation.

The Foreign Credits Session

Delegates from various parts of the world, including Cuba, Brazil, India, Argentina, the Far East and the Near East, describe in most pointed fashion the present conditions and how they may be improved

THE Foreign Credits Session was devoted to an informal discussion of the all-important subject, the chair being taken by J. H. Tregoe, secretary-treasurer of the National Association of Credit Men.

As a preliminary the report of the Foreign Trade Committee was presented which report touched upon the present conditions affecting international trade; summarized the situation with respect to the American Merchant Marine; referred to the consequences to the United States as a creditor nation and source for foreign loans, declaring that, in view of the facts stated, "and that this country will be increasingly looked upon as a source of loans for development and other purposes in many lands, we consider it especially desirable that American manufacturers take a greater interest than they have hitherto done in the terms of such loans, and that American investment bankers in negotiating foreign loans should as far as practicable stipulate for the expenditure of some portion thereof in the United States, or make provision for American manufacturers having opportunities for bidding on the same terms as those of other nations for the supplies which may be needed in the carrying out of the purposes of the loan."

The report also commended the position of Secretary of State Hughes, with regard to commercial treaties, contending that maintenance of the policy of the "open door," was of more importance to American trade in general than the temporary advantages or special concessions to special lines arising from discriminatory tariff duties.

Reference also was made to the many foreign Chambers of Commerce recently organized in New York and the belief that in view of the fact, that many of them relied largely for sup-

port upon American manufacturers interested in export trade, "It will be in the interests of all concerned that a reduction of the number of these bodies be effected by combination or amalgamation."

The report concluded by calling attention to the facilities provided by the Foreign Trade Department of this Association and the many ways in which the department could be helpful to members, ending with the admonition: "when in doubt regarding foreign matters, commercial, financial or industrial, consult the National Association of Manufacturers and its Foreign Trade Department."

The chairman then introduced Louis Chable, president of the American Paper Export Company of New York, recently returned from a trip around the world. Mr. Chable spoke briefly of conditions affecting trade and credit in the countries visited by him, stating principally with respect to Australia and New Zealand, "I would say that you can very safely do business with almost anyone who asks you to do business with them from there."

"Before the war, for long years back of that, the custom of the Australians and the New Zealanders, was to open letters of credit, but like every other part of the world they are asking for those customs to be changed, and demand to-day to have terms of sixty, ninety and a hundred days. As a matter of fact, they do it with a great deal more right than others because the time of transportation of our wares to their country is certainly not less than sixty days from here, as freight is shipped on slower going boats than the passenger ships."

"The principal merchants in Java," Mr. Chable said, "of course, are the Hollanders from the old country, who have come there to establish and hold

trade principally with Holland and with Germany, with Europe. During the war they traded with us, to our great disaster, because when I came down there I found very large accumulations of stocks which had been rejected at the end of 1920, when they were shipped. They are still consuming some of those.

"As far as credit is concerned, the Dutch merchants undoubtedly are worthy of credit, and likely they would order their houses in Holland to pay for the goods that they would purchase here.

"In China and Japan the old custom of opening credits should still prevail, unless you are dealing with foreign houses there or with houses of long established and well established credit.

In answer to a question as to whether conditions in Java were improving under the advancing prices for sugar and rubber, Mr. Chable said: "Yes, to-day, but it was in very bad condition when I was there. But they were hoping for an increase in the price of sugar which would naturally help them considerably, although, strange to say, I am informed that sugar in Java cannot be produced as cheaply as in Cuba, notwithstanding the fact that the labor there gets only half a florin a day—about nineteen cents of our money. Of course, they haven't the large areas that Cuba has, and they haven't the large sugar estates which make the production of sugar cheaper."

M. A. J. Noble, a Parsee business man of Bombay, with large interests in enterprises in several other countries, was then introduced and said in part:

"Gentlemen, before I open my address, let me tell you that I am addressing you in a language which is foreign to me, and if I disappoint you because of the eminently eloquent speakers who have preceded me, please don't find

fault with me. Secondly, I have to speak on a country, a continent, which is as big as Europe minus Russia and I can't do justice to the cause of my country within the few minutes that are allowed to me this evening. However, if time permits, I shall do so on some other occasion and at some other place.

"Now, you want to know about the credits in India. You have so many exporters that have been startled by the reports that were published about two years ago regarding the credit of India. I may tell you that this same complaint was made of every other country, because after the boom, that is, after the armistice, there was a reaction. In India shipments were made for very large amounts and they were all deferred shipments, meaning that the orders had come months and months before, and they were shipped long afterwards.

"The importers were in a plight. They did not know what to do. They would order out goods on the basis of certain calculations and when the goods arrived, they arrived in larger quantities and at times when they didn't want them. The result was that many of the drafts remained unpaid, but I am happy to say that they have all been taken up now, because the English manufacturers, especially the Manchester people, met them half way.

"I may tell you, gentlemen, and assure you that it is a characteristic of a true Indian that he is always honest. He wants to meet his obligations. First of all, he is always guided by his religious principles. He feels, 'If I don't pay you what I owe you, I will go to hell.' (Laughter.) So he has that appreciation, and a true one, too, and he doesn't like to 'do' any one. So, gentlemen, if at any time you are prepared to open credits with India, according to the limited experience I have of India, I will tell you, you will be in safe hands."

Chairman Tregoe: "We come now to China. I find next on the program, P. J. Smith, who has recently returned from China, where he had several years' experience with that well known company whose intensive cultivation of the Chinese market is often held up by writers as an example of how to build up trade with China; namely, the American Tobacco Company."

Mr. Smith said:

"Without disagreeing with anything that has been said to-night or injecting any argument into our meeting, I felt as I sat there that someone should stand up and defend China. As you all know, China has been a republic since 1911. They have not got affairs straightened out very well yet, but they

will. I have heard a good many times during the last few days that if we are to do export business we must do it on a basis of credit. If we are to do export business with China, it must be done on a basis of credit, or with any part of the Far East.

"The Chinaman thinks just as much of his 'face' as we do. As it has been said, this is one of the reasons why they pay their bills. Possibly the same methods of credit may not be easily established in the Orient that prevail here, but by means of guarantee bonds or cash payments, if you have a man on the ground or a representative on the ground, you will find ample opportunity to dispose of your goods in the East."

Many questions were asked Mr. Smith and promptly answered.

The credit situation in Brazil was then taken up by A. Amaral, treasurer of the Brazilian-American Chamber of Commerce of New York, a Brazilian long identified with the trade between the United States and Brazil and recently returned from his native land. Following are extracts from the interesting remarks made by Mr. Amaral:

"The average manufacturer in this country, if I may be permitted to state it, is not as familiar with the Brazilian method of trading as some of the regular export houses and the result is that the Brazilians who have been endeavoring to trade direct with manufacturers are not often able to agree upon conditions; the manufacturers here demanding more stringent conditions than they can meet there.

"England in pre-war days was very liberal in its credits to Brazil. It allowed merchants as a rule ninety days' credit. Germany went better. I have known cases of several German concerns who gave to Brazil credits of twelve months. Germany, to drive England out of trade, established what they called a current account with their firms in Brazil. Germany used to ship goods to Brazil without any drafts, just debit the merchant with the goods shipped and allow him to pay in instalments. That act of Germany really won for it the trade of Brazil, and I have been told that the German government was a factor in this large credit by facilitating German banks to give credits to merchants in foreign countries under certain guarantee of the government.

"Germany is finished now, and Brazilians are looking to this country. The question is one of credit.

"I can very safely state, from my experience in Brazil that you will find that nine-tenths of the Brazilian merchants are honest people who will fulfill their obligations and pay every

penny they owe. But Brazil is a peculiar country. It is sorely in need of immigration. The result is that trade in that country is very slow. The means of communication is very, very slow indeed, and the average merchants have not got large capital at their call. They get a certain amount of assistance from the banks, but the goods that they get from other countries, which they have always got on credit, have to be shipped inland, and it takes two or three months before they can realize on these goods. So that the merchant naturally expects the foreign seller to give him a ninety-day credit, so as to enable him to sell the goods and realize on them.

"The majority of firms in Brazil have one of the peculiarities of the Latins—they are proud. They cannot see why they should pay cash." (Here Mr. Amaral described instances in his experience.)

"So the suggestion that comes to me is this: I think if it is possible for American manufacturers and American firms to deal in Brazil to allow them as far as possible an average of a ninety-day credit, with the privilege of allowing the merchant to discount his bills, say, at sight thirty or sixty days with a little discount. You will find that in seven cases out of ten the majority of those merchants will avail of that discount. They want to be satisfied that you gave them credit, that you have confidence in them, and they reciprocate that confidence by showing that they have the money to pay, and they will pay you."

After further discussion of Brazilian affairs a recess was taken in order to present a playlet, entitled "Simp or Simpatico," which was very cleverly acted by its authors, L. R. Browne, H. G. Brock and B. B. Tregoe, contrasting the approved method of courteously meeting a prospective customer from abroad with the rough-and-ready method which unfortunately the foreign visitor sometimes experiences and naturally resents.

The more serious part of the program was then resumed. S. L. Alatrisme, Commercial representative of the Mexican Government and president of the Mexican Chamber of Commerce in the United States making a brief, but eloquent address on the situation in Mexico, in which he said:

"I was sent by the Department of Commerce of Mexico some four and a half years ago to organize the commercial service of Mexico in this country, and the first place I visited was St. Louis, Missouri.

"I made it a point, since I started in that work, to investigate what was the real standing of the Mexican mer-

chants in regard to credit matters. I had small hope to get satisfactory results on account of the long years of internal difficulties.

"When I came to the United States, a certain sentiment of distrust existed on account of those conditions, on the part of most of the merchants. I succeeded after a few weeks in the United States in organizing the first group in this country who came down from the Mississippi Valley Association to look over matters in Mexico. I am glad to tell you after these gentlemen

came down to Mexico and looked into the matters in Mexico (this was about four months ago), they were convinced that the situation and especially the credit situation was not so bad as it was represented in many cases in the press reports. They came back to their organizations with a good word for Mexico and from that time, the old system of credits was established and instead of cash-with-the-order (as formerly were the terms), they began again to make terms and to have longer credits."

Keen interest in the remarks of all the speakers was shown by the audience and many questions were asked and answered. Time did not permit of all on the program being heard in formal remarks. The proceedings closed with a brief address by the Honorable Felipe Taboada, of Cuba, who called attention to the good industrial progress which our island neighbor has made in the last two years and the fact that a steadily increasing number of Cuban merchants are regaining their pre-war status.

About Coal And Transportation

*Former Governor Cornwell of West Virginia, presents clear picture of situation and warns of efforts to nationalize coal industry and
Former Governor Hooper of Tennessee makes plea for railroads*

FOLLOWING the election of vice-presidents and directors-at-large, on Wednesday morning, the convention listened to addresses on two outstanding subjects of the day—coal and transportation.

Discussing the latter, Carl R. Gray president, Union Pacific Railroad System, said, "The best way to solve the railroad problem is to let the Esch-Cummins law alone." He said "that while some sections of the law, notably the labor section, were unsatisfactory, nevertheless he believed that there would be no advantage in tinkering with it. He said that it might be amended so as to make the awards of the labor commission compulsory, but added that if they were compulsory there would be difficulty in enforcing them. He also expressed opposition to the repeal of the guarantee clause.

"What the investor wants," he said, "and what I conceive the railroad situation most needs is a little assurance of stability in the American legislative mind. Three years seems to be a long time to people who want to change the railroad situation. One of the criticisms of us as a people made by outsiders is that we plant something and then before it has a chance to grow, we dig it up to see whether it is getting along all right. That has been our railroad attitude. We do a good job—and in this Transportation Act, I contend that we have done primarily a good job—a season job—but there is hardly time to give it an opportunity to begin to function, before there is evident determination to tear it all to pieces, to throw us back into the old condition of uncertainty, where no investor could tell what would conceivably be the situation in any given railroad property in another year.

"Rate reductions, rate adjustments, are matters taken hold of where they can't be settled by negotiation between the parties and are handled in a judicial, impartial and most intelligent way by the Commission. But legislation ordinarily, in the heat of political expediency, does an incalculable injury to this industry and I contend that the sufferer with us is the shipper and business man.

"We don't hear anything more now about watered stock; as I said a while ago, that is allayed, but in place of that the agitator has commenced to talk about watered valuation. It is an amazing thing that is stated as a new, very insidious and very criminal attitude of the railroads. They have no more to do with it than any individual sitting here. This valuation is being in the most intimate detail determined by the Interstate Commerce Commission, and when that is determined, if there is any watering, it has got to be water injected by the Interstate Commerce Commission, a trusted governmental body, and not by the railroads.

"I am not afraid of government ownership, at least, it is not coming in my time, but I have seen a sample of government operation. I had charge during the war of the actual operation under the Director-General, of all the railroads, and I don't mind saying to you in confidence that I don't want to see anybody down at Washington with as much authority as I had. It was very safely bestowed then, but I don't know any other fellow that you can trust that much.

"The purport of all that I have said, the result of my reasoning upon this matter, brings me to this conclusion:

We have had this law on the statute books for three years. Admittedly we have found certain things in it that, applied to a specific case, seem to admit of some improvement; but we must remember that the year 1920 was an abnormal year, as far as the railroads were concerned; it was partly government operation, it was partly individual operation under the six-months guaranty, and then it was four months of individual operation. With 1921 came the great depression; large surpluses of cars, large unemployment. In 1922 came two of the greatest strikes we have ever known; a complete cessation of unionized mines in the bituminous industry, and the most universal strike among railroad mechanical operatives that we have ever known. Coincidentally with the mechanical and the coal strike came the greatest revival of business that we have ever known; and I would like to remind you of that, to ask you to remember that as a result of this coal strike the coal cars of the nation were as badly scattered as it was possible for them to be because they had been thrown into the non-union fields and they had been thrown into other classes of fields, so that when the mines reopened, the usual vehicles of business were not available and had to be assembled; the emergencies throughout the nation had to be met, and coincidentally with that, the largest volume of business that this country has ever known was being carried on.

"I say that under circumstances of that kind, the wonder was not that there was complaint and the wonder was not that there were inadequacies here and there—the wonder was that there were relatively so few.

"I make this statement to you with

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regard to the three years which this Railroad Act has been in effect—one of them a representative year; certainly none of them a normal year.

"This period ahead of us seems to

be approaching a normal. Railroad purchases are at a high stage; and, gentlemen, there never is in this country any real prosperity when the railroads are not buying."

JOHN CORNWELL'S ADDRESS

John J. Cornwell, General Counsel of the Baltimore & Ohio Railroad Company, and formerly Governor of West Virginia, discussed transportation, saying:

"Whether the miners' organization will make an issue, at the expiration of the present contract, of the six-hour day and five-day week, remains to be seen.

"There is one fact of which I do feel certain, however, and to my mind it is just as sure as anything in the future can be, and that is that sooner or later, and I do not think very far off, the miners' organization will make an issue of the nationalization of the coal mines and fight it out with a strike on that line.

"This statement is made in all seriousness by a man who thinks he knows something of the psychology of the situation, and who has talked for hours with district officers and

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thousands of intelligent persons who wish to visit the battlefields of France, the Shakespeare country, Scandinavia, the Land of the Midnight Sun, etc. A chance of a life-time! So it would seem; but it is more than that. The company is building for a permanent business, setting a new standard of high-class ocean travel on a one-class basis. That this can be done at a fair margin of profit has already been proved and is further outlined in our prospectus. You'll find it extremely interesting.

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subordinate officials of the mine workers' organization.

"That demand was first formally and officially made at their national convention at Cleveland in 1919. It has since been reiterated, but for tactical and strategical purposes John L. Lewis has not permitted it to be pushed, but do not mistake the fact that it is the basic demand of the United Mine Workers' organization, and the officers are intent upon pressing it at the proper moment. There is a lull now, while the Government Fact-Finding Commission makes its investigation, but if that commission's report is not satisfactory to them, and it will not be satisfactory unless it flatly advocates nationalization of the mines, then the storm will break again and the agitation begin.

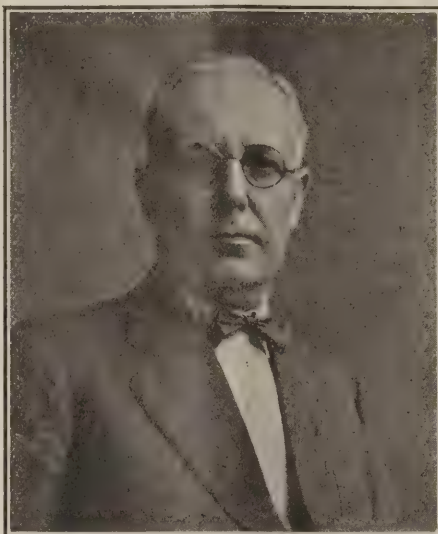
"The irrepressible conflict between the union and the non-union fields will go on, and the free-speechers, financed by cranks and simpletons in this city, will go on agitating and getting out their propaganda. When the non-union coal fields capitulate, if they ever do, the work of the miners' organization in securing complete control of the production of coal will have been attained. That would make the struggle for nationalization of the mines much easier.

"So sure am I that the struggle is not far off, I am wondering how it will be met and dealt with. Have this country and our people the temperament and the disposition to make such a fight as the English people have made or would make? Or will the members of Congress hasten to rush through a bill nationalizing the mines while Mr. Lewis sits in the gallery with a stop-watch and counts off the remaining minutes, as was done when the Adamson law was passed?

"And if the bill is passed and signed, what then?

"Would the condition under Government ownership and control, or nationalization, as the mine workers' officers term it, insure a steady and uninterrupted flow of fuel at a reasonable price or at any price? I do not think it would. I do not think that we could assume that the union miners would work any more steadily if the mines were owned by the Government, and certainly not at a lower wage scale than if they were to remain under private ownership. The only reason for the demand for Government ownership of the mines is that the union miners believe that wages would be higher and working conditions easier.

"If the United Mine Workers and those who agree with them—in other words, other organized labor groups—become powerful enough to force Congress to pass a bill nationalizing the



Ex-Gov. John J. Cornwell

mines, they will also be powerful enough to fix the rates of pay as high as they like, and to make working conditions whatever they care to have them. And if at any time Congress should refuse or fail to enact the legislation demanded, it goes without saying that they would strike as quickly under Government ownership and control as under private ownership and operation. There would be no relief coming from nationalization of the coal mines. The whole proposition is unthinkable and would be the first step in general state socialism.

"Hence, whatever our troubles may be with respect to the fuel supply, and whatever annoyances we may have in procuring a steady fuel supply, it seems to me that we should set our

faces sternly against the proposition of yielding over this demand, which will be made within the next few years and which will have to be faced and fought."

Governor Cornwell was not hopeful that the Coal Commission could accomplish much. He said he was inclined to the view that the large consumers could aid in stabilizing if they were willing and able to store a larger quantity of coal than they ordinarily do and thus stretch coal production over the entire year. This, he said, would eliminate great depression at certain seasons and unduly high prices at others. He then turned his attention to the other great question in fuel supply, that of transportation.

"It is true that the operators, especially of bituminous coal, can produce it only when they can have it transported to market," he said: "as it is impossible for the operators to store large quantities of coal at the mines which, for the most part, are located in mountainous regions where such facilities are unattainable."

The speaker said that while the demand and production of coal continues seasonal and intermittent the railroads never will be able to transport the coal as and when it is demanded and needed. As to the future, Governor Cornwell said that if there is no nation-wide strike of the coal miners the railroads will shortly be able to handle all the coal that the country requires as it is needed. He called attention to the action of the railroads in providing more than a billion dollars for equipment and expansion of facilities during this year.

JAMES A. EMERY'S ADDRESS

James A. Emery, General Counsel of the association, discussing the general industrial and legislative situation, said:

"This remarkable gathering, equally, if not more representative than any convention of the association, in its history, a record of practical achievement which the association can present to its members, the re-invigorated vitality of the organization, the enthusiastic support which it has been receiving from its membership in every appeal to them for responsive action, is due more largely than to any other circumstance to the fact that a man has come to the helm—a man who could not only clean house, but keep house, whose personal thought for himself never gets beyond the rear range of his consideration, who, in addition to endowments of intellect and experience, brings to the service of an organization of this character not only

the sincerity of a splendidly honest nature, but a reputation for character in the community from which he comes, in the service of his fellows at home, and the church in which he worships, that adds new force to every act of his official life.

"The most serious charge that can be brought against the business man to-day is that he has been too frequently the maker, through neglect, of the conditions which he criticizes. Indifference to politics and public affairs has been the besetting sin, of the American business man.

"The working efficiency of popular institutions is not bettered by resentful withdrawal from their conflicts but by active and determined participation in their campaigns. The business man who does not do his earnest and determined part, not merely to understand important public issues, but to better the character of public serv-

ants, is tending to assist in that unhappy condition in government which results as has been splendidly said, not in government mastered by ignorance but in government deserted by intelligence, not in triumph of the slums but in the betrayal of the schools, and it results not because bad men are brave, but because good men become infedels and cowards.

"Gentlemen, the exasperating misconceptions of why you are the frequent victim, the unsound economic thinking which you must always combat, misconception of your motives, the mistrust of your purposes, which is a part of the penalty that success and responsibility pay for their position in life, were only bettered by a frank determination on your part to meet the primal difficulties that cause the condition.

"One of the first efforts and most determinedly continuing efforts of this association has been to maintain conference relations with every other important group in the American structure. The cure for blocs and class organization and class consciousness and class conception is an intelligent understanding by the parties to such movements of their utter reliance upon the normal and prosperous operation of the other parts of the same society. The National Association

of Manufacturers has established continuing conference relations with the farm groups, with the transportation groups, with the banking groups, with the investment groups, with every other single essential element in American society, organized for the study of its relationship to other elements in the confident belief that many of their differences of opinion would be worked out more easily about a common council table in which those differences were frankly aired and discussed than in public forums or in legislative committee rooms where they appeared as the normal opponents of each other's ideas.

"I think they have had more than a moderate success in establishing those relations and in working out many of those problems, and I think to-day that the position which the Association takes upon public questions has been shaped to a large extent not by any narrow conception of the relationship of the manufacturer to any particular problem, its immediate effect upon his own personal interest, but by the relationship of all these factors to the common problem and the realization that no public policy of the United States was to be ultimately settled to the advantage of its people unless it was settled to the advantage

of all the groups that contributed to its industrial structure and to the orderly operation of its social life.

"Gentlemen, there is among the principles that are urged upon our consideration in relation to foreign relations one that in fundamental conception is especially worthy of the consideration of bodies like this. The people who hope to improve the prospect of peace are those who seek to remove the causes of war or to provide some means of permanently determining disputes which are capable of justiciable adjudication. I mean that they are capable of determination by the application of commonly recognized principles of law. You can't determine the right of the American Government to enforce the Monroe Doctrine by any appeal Board of Arbitration, nor is it a subject that this nation would ever submit to any tribunal.

"I would be the last to urge upon this organization or call to its attention any mere political issue, but the determination, the ultimate determination of justiciable disputes between nations by a Permanent Court of International Justice is a principle so deeply rooted in the prospect of removing many of the causes of war from among civilized nations that it is a worthy element in international relations for the considera-

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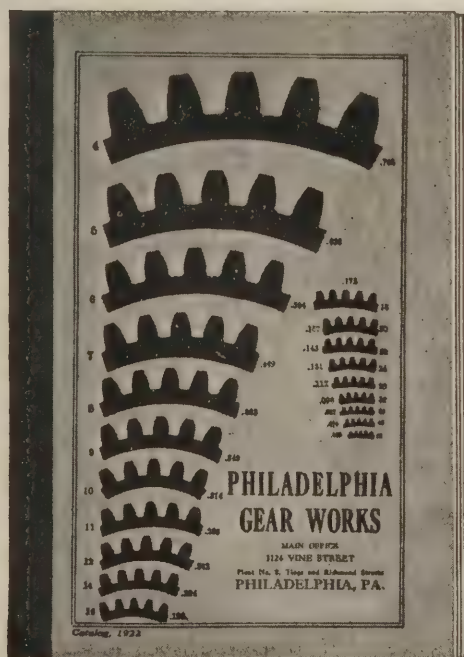
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tion of any intelligent and rational body of men.

"Long before the acceptance or rejection of the League of Nations or the World Court was brought to the attention of the American people, a distinguished body of lawyers led by no other than the great leader of the American bar—Elihu Root—had urged upon the bar and upon public support the adherence of the United States and its leadership in the proposal to establish a Permanent International Court as distinguished from any temporary sporadic proposals of arbitration.

"Gentlemen, our domestic affairs are perhaps more important to the average man than any foreign relationship, however fundamentally important it may seem to be. Among the questions that seem to demand the immediate consideration, especially of industrial men because of their intimate effect upon the conservation and development of our industrial activities, there are at least four that stand out above the others. I think these are involved in the problems of taxation, transportation, immigration, and the insidious and determined, but continually increasing assault upon the sources of judicial power in the United States.

"Predicating upon our estimated national income the amount that is now consumed for the support of Government, which remember is paid out of its net, we find it estimated by the most competent authority that in the past two years the requirements for new capital have presented a deficit of substantially \$2,000,000,000 a year.

"The nation that supports expenditure by Government at the expense of the maintenance and the improvement and the development of reproductive industry is destroying the sources of public revenue and threatening the integrity of its industrial structure.

"Another striking thing about the operation of our tax system is the diffusion of its burden. We have substantially 41,000,000 wage earners according to our last census and of that number—or rather, we find that we have about seven and a half million who make tax returns. That is about 17 per cent of the wage earners. We find further that about 25 per cent of those who make returns do not pay taxes.

"The result is that out of all the people who enjoy the benefits of Government, substantially twelve or thirteen per cent meet all its burdens.

"I think it is an accepted axiom that taxation is a badge of citizenship, that no man is entitled to enjoy its advantages who does not contribute to the support of its existence.

"Gentlemen, the purpose of taxation is to get revenue and that form of taxation is best from the viewpoint of Government which assures a continuing flow of revenue with the least inconvenient, and substantial burden upon the taxpayer. Government is interested not merely in getting revenue, but in creating revenue. The prosperity of industry is the assurance of an enlarged flow. Government can plan its projects, carry on its administrative purposes, only when it can, within reason calculate the amount of its income.

"Gentlemen, the difficulty about improving the tax situation lies in the lack of unity in essentials or policy amongst those who criticize it. Every time that a business group has undertaken to consolidate the thought of the country or the business men of the country upon the subject of taxation, they have been confronted by another business group who disagreed with them before Congress. And the Congress has very properly said, 'Until you gentlemen can agree among yourselves how can you expect Congress to agree?'

"This Association can perform no more useful purpose, it can dedicate itself to no more constructive physical policy than the endeavor to harmonize and unify in fundamentals at least the tax thought of American industry that it may present a united and constructive substitute for the present unsatisfactory system.

"No man can magnify to industry the importance of adequate facilities by rail and water and hard surfaced roads. Transportation is the natural limitation upon production for what does it profit a man if he produce greatly and distribute with difficulty? We believe in privately owned and privately operated railroad systems. We believe that experience demonstrates that they produce the best service and bring to the problem the highest technical equipment for its solution. We want adequate facilities, efficiently performed at reasonable rates subject to rational public regulation. People who want good service must be willing to pay for it, and they can get it only when those who provide it have the means with which to purchase equipment and develop facilities.

"If you want to improve the transportation policy of the United States, isn't it better to give a fair trial to the act under which it now operates than to trust its general improvement to a Congress not only without definite and unified views on the subject of railway transportation but divided into cliques and factions with possibly publicly expressed views on the

subject, if giving legislative effect would demoralize the very condition we hope to perfect?

"Gentlemen, there is one other subject of immense importance to us.

"Immigration has poured into the United States in 1914, before the war, at close to a net of 1,000,000 a year. The war itself acted as an embargo upon immigration and thereafter not only acted as an embargo, but was accompanied by a vast emigration from the United States, and thereafter when we were confronted with the possibilities of a great exodus from Europe, the Congress, with great justification, passed a three per cent restrictive act until a permanent public policy could be determined. The first year of the operation of the Act we had substantially no net male productive labor added by immigration to the labor forces of the United States.

"Now it is urged that that temporary policy shall become a permanent policy, or that the principle shall be more drastically applied by the reduction of the quota to two per cent.

"The substantial effect of that when you consider the cancellation of immigration by emigration would be to give us a system of immigration prohibition under the guise of restriction.

"The manufacturer has criticized that policy and his criticism has been shared by many other commercial and industrial organizations. It is charged that he wants unrestricted immigration, that he wants a large and continuing superabundance of cheap labor, that he is only interested in providing for his economic necessities and cares nothing of the effect of the policy upon the social life of the nation.

"I know of no industrial organization, least of all this, that has ever favored unrestricted immigration or wants it now. I know of no intelligent industrialist, least of all the membership of this Association, if I understand it, that wants 'cheap labor?' If I understand what you want, you want labor of the highest earning capacity. You ask only that its pay shall be measured by its production and you are more anxious to have it earn more than earn less.

"You have the greatest interest in the maintenance of not only an average but of the highest standard of intelligence not only in immigration but in every improvement by education in the quality of their intelligence and the soundness of their judgment. A man who accuses American industry of seeking to introduce unintelligent masses into the United States must conceive it to be a thoughtless planner of its own ultimate destruction.

Banquet With National Atmosphere

Secretary of the Navy Denby pays warm tribute to the Association for the support given to him in keeping up the Navy's personnel and Ben. W. Hooper sounds warning against spread of radicalism

NAVY and army officers and officials representing other branches of the United States government, provided a broad national atmosphere for the Annual Banquet which was held on the evening of Wednesday. With an unusually large proportion of women, the whole setting was one of the most picturesque that has ever graced this feature of the association's conventions.

Mr. Edgerton, president of the association, was toastmaster and the two special guests were the Hon. Edwin Denby, Secretary of the Navy, and the Hon. Ben. W. Hooper, chairman of the United States Railroad Labor Board, and formerly Governor of Tennessee. At the speakers' table also were Vice-Admiral J. B. McDonald and Rear-Admiral Plunkett; General Robert L. Bullard, Colonel M. C. Rorty, Magnus W. Alexander, Charles J. Webb, Hubert Work, Willis Booth, Stephen C. Mason, Charles Cheney, Henry M. Leland, Rev. A. Edwin Keigwin, Commissioner Frederick A. Wallis, Bird M. Robinson, Earl Constantine and James A. Emery.

Secretary Denby paid a very generous tribute to the association at the outset of his speech, saying:

"I am more than delighted to come here, in response to the invitation of this splendid association. I don't intend to endeavor to flatter you, but of course it is obvious that you do represent an immense part of the industrial and social life of the United States, and any man should feel tremendously honored with being given an opportunity to come and meet you. But I particularly, and a great many other men who wear the uniform of the United States Navy, feel very, very deeply indebted to you.

"Two years ago a very determined assault was made upon the Navy. An effort was made to reduce the personnel from 96,000 or 100,000, as it then was, to 67,000, which would have practically emasculated the Navy and done irreparable harm to the defenses of the United States. Your association sprang splendidly and instantly into the breach, and gave incalculable value in enabling us to save the appropriation that meant a proper number of men to man the Treaty Navy of the United States. So I shall always feel a peculiar sense of obligation to you, and shall always deem it

an honor to be of the slightest service to you, as an association, or as individuals, if opportunity only will present itself to me. And in that I echo



The Hon. Edwin Denby

the sentiment of all officers and men who appreciate the situation of the United States Navy.

"To-night I thought I would talk to you in a very informal way about the Navy that you helped to save; what it is, and what it ought to be. I don't intend to go over the Treaty on Limitation of Armaments, with which you probably are all familiar, but only to say that when that treaty is finally ratified by France, the only nation which has yet not ratified it, and when the ratifications are exchanged and the treaty thereupon becomes a law, the United States Treaty Navy will consist of eighteen battleships, and one hundred and thirty-five thousand tons of airplane carriers, and such other cruisers, submarines, aircrafts and auxiliary and secondary craft, as the United States may deem best to create. The Navy of England will consist of twenty-two battleships, all mentioned by name in the Treaty, and a corresponding authorization to create airplane carriers to a limited number and amount in tonnage, and cruisers and other craft at will. The Navy of Japan will be limited in a similar manner, and France and Italy in the same way.

"Ever since the sixth day of February, 1922, when that Treaty was signed at Washington, the new construction of the United States has

stood absolutely still, except for the fact that two great ships that were designed to be battle cruisers, are being converted from battle cruisers into airplane carriers, and each one it is expected will carry from 80 to 120 airplanes, and will have a speed of thirty-five to thirty-eight knots, and an armament capable of repelling the attack of smaller craft.

"Not long ago I went with a party of Representatives, Senators and newspaper men, down to review the fleet at joint maneuvers off Panama. It was the greatest assemblage of sea power ever gathered together under the flag of the United States. I think if each one of you could have been present at those maneuvers, could have seen those ships, and watched their men at drill and at play, you would have felt an infinite pleasure in the fact that you helped to keep it what it is.

"When we arrived at Panama we went through the Canal and then we went out on our ship to review the great fleet at anchor. They were anchored in a vast square—battleships, forty-eight destroyers, a large number of submarines, refrigerator ships, repair ships, hospital ships, everything that goes to make up a modern Navy. And as we passed through the great lines of vessels, and they thundered forth their salutes, and we replied, I should like to have had all the world see—not because we took pride in the power that there was represented, but because we realized and the world would realize that that was the strongest force for peace that exists in the world to-day.

"We never forget that the prime function of a Navy, and that for which it is created, is to be ready to fight at all times; neither do we forget that a secondary function, and one that sometimes becomes a prime function, is to preserve the peace on the face of the waters and on the land, and that purpose our Navy has discharged repeatedly.

"I want to tell you just a bit of the maneuvers. The purpose of bringing the fleet together was to give practice in evolutions. The new policy of our department is represented in the creation of an United States fleet, something that we have never had before.

"We used to have an Atlantic Fleet and a Pacific Fleet, and various other fleets. Now we have the United

States Fleet, under one administrative management. It is divided into the battle fleet, consisting of ten or eleven battleships, stationed at the moment in the Pacific; the scouting fleet, the purpose of which is, as its name indicates, to keep in touch with the enemy, if possible, and to enable the great power of the main battle fleet to come into action at the right time, and that is stationed in the Atlantic. Then, we have a control fleet, all under the United States Fleet, the purpose of the control fleet being to occupy area on land or on sea taken by the main fleet in an advance upon the enemy. Then we have a base control fleet, which is designed to protect the bases in the United States or elsewhere which serve the great fleet of the United States.

"That is the United States Fleet. In addition to which, we have a number of smaller fleets that scarce deserve the name, in size, but in importance add very greatly to our national prestige, and accomplish a great work throughout the world.

"We have our Asiatic Fleet, one old cruiser, a number of destroyers, a number of submarines, some auxiliary cruisers and six gunboats. The purpose of that fleet is to patrol the Oriental waters and to protect the interests of the United States, wherever they need protection. One part of it is the Yangste Patrol, a little fleet of gunboats, four in number, that patrol up and down the upper reaches of the Yangste River to protect the shipping of the United States against the attacks of bandits or irregular soldiery and to save and protect the citizens of the United States whenever they are given an opportunity to do so.

"It is unfortunate recently that an incident has occurred in China which has focused the attention of the whole world upon the almost chaotic condition that exists in that Empire. We need every ship we have in the Orient in that Asiatic Fleet. We have those

four gunboats up the river and those four gunboats consist of one fairly modern ship and three that we captured from Spain in the war of 1898. And when they race with the islands and with the trees ashore, it is always a problem which will win. It is exceedingly difficult to give proper convoy to merchant vessels with ships of that kind. We haven't yet been able to get any other gunboats, except the *Tulsa* which is now on the ways and will shortly be completed. We have got to have them, and we are going to ask for them in the next Congress. They are vitally needed to protect the interests of the United States and the citizens of the United States in the Orient and in other places. That is one fleet.

"Down south we have another fleet

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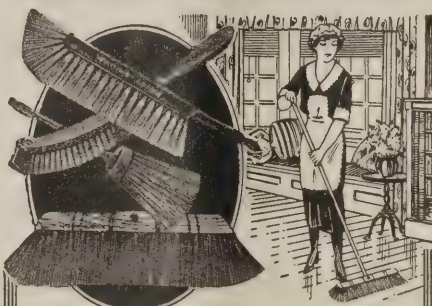
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which we call the Special Service Squadron, consisting of four old second-class cruisers. They are good ships for the purpose, and their purpose mainly is to travel around in Central and South America and the northern part of South America and to show the flag of the United States, to extend courtesies, to build up goodwill and to protect the interests of our country whenever they need protection, and the fleet most successfully and splendidly discharges that duty.

"Last year, for example, if you recall, down on the coast of Chile there was a terrible earthquake and a great deal of suffering, and the moment it was learned by our Government that that earthquake had occurred, two vessels of the Special Service Squadron were despatched to the scene of the earthquake, carrying medicine and stores of all kinds for the relief of those people. And the effect of that one act of common humanitarian impulse on the part of our Government was striking upon the people of Chile.

"We know the immense power of the air. We know its growing, vital necessity, and we know its incalculable possible development, but the air will never defend the United States completely on the sea. It is impossible. It will always be auxiliary to

other forces, and on the sea the main force is and must be the line battleship—the ship that can stand the pounding of heavy guns, the ship that can go in and can't be met except by

a vessel of equal strength and power of resistance. That's the backbone of the American Navy and the backbone of every other navy, and will always be so."

BEN. W. HOOPER'S ADDRESS

Mr. Hooper sounded a very strong warning against the peril of socialistic tendencies and radical doctrines. He inveighed also against the growing disposition of organized labor to resort to violence in its crusade for industrial control and condemned the agitation favoring limitation of the powers of the judicial branch of the Government.

So-called progressive movements of the day, the speaker said, are only progressive in name. Underneath they show plainly their socialistic origin.

"There are a lot of wild-eyed radicals and demagogues in this country," Mr. Hooper said, "who believe they can sell any kind of idea to the people by labeling it 'Progressive.' We all like that word 'progressive,' but it will pay the people to take a good look at all the political wares that are brought around bearing our favorite label."

Mr. Hooper described socialism as "an insidious cult standing at the elbow of every man who harbors an indi-

vidual grouch or a class grievance, real or imaginary, and whispering into his ear distrust, suspicion and bitterness against the institutions of his country. It charges every failure and disappointment to the present organization of society." He continued:

"The main hope of socialism in this country is that it may be able gradually to gain control of organized labor. I would not be understood as predicting that a struggle for the overthrow of our institutions is imminent. But I do say that the great overshadowing political problems of the next and perhaps succeeding generations will not be the outgrowth of international relations, but will be the domestic problems arising from the development and conduct of industry.

"The general paramount purposes of organized labor to secure for itself a larger share of the products of its hands is altogether commendable. It is precisely what you and all men would do in similar circumstances. In form labor organizations are demo-

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cratic. Over against this democratic theory, however, there stands the idea of domination by force. This is the most dangerous tendency of organized labor with which the public has to deal.

"The form in which the idea of force is most frequently manifested by organized labor is the strike. In theory the strike is merely the exercise of economic power. In practice it often degenerates into the exercise of the cruelest, nakedest and most hideous brute force. This has always been the case in connection with public utility strikes.

"There never can be a successful railroad strike in this country without the accompaniment of violence. Not even the unanimous strike of every employe in all branches of the service and the tying up for the time being of every mile of railroad could crush and conquer the people of this free country without the assistance of violence. A movement which is always accompanied by violence, intimidation, arson, riots and murder, and which cannot possibly succeed without these things is un-American in spirit and cannot survive in this republic.

"As a corollary to this idea that strikers on public utilities have the right to wage what practically amounts to civil war on the employer, on labor

and the public, a remarkable doctrine is now being propagated. It is, in substance, that not only must the striker be permitted to use force but the Government must be denied the right to prevent violence and to protect its citizens therefrom.

"Speaking, as I believe, the sentiments of the great mass of American people away from the metropolitan

centers of population who hold in reverence the traditions of our Republic, the people who do not give a tinker's dam for the voting strength of all the flannel mouthed agitators and malcontents of your cities, our country is not yet ready to curb or handicap the Supreme Court in order that the Constitution may be subverted and broken down."

Resolutions Passed By Convention

Taxation and the National Budget System

The extraordinary rise in our tax burdens continually emphasizes the necessity of economy in public expenditure. Substantially one-sixth of American income is now required to support American government.

We re-affirm our hearty endorsement of the National Budget System, congratulate the President of the United States upon the vigorous retrenchment which he has accomplished through his determined applications of that system to the expenditures of the national government and urge upon our extravagant states and municipalities a practical imitation of the federal example. We pledge our continuing practical support to scientific budget procedure with particular reference to the continued curtailment

and elimination of items of governmental expenditure for existing activities or projects which have no connection with the legitimate operations of the business of government.

To reinforce this policy, we urge our members before lending their endorsement to any project contemplating an appropriation or expenditure of federal funds to bring the proposal to the attention of the Association for investigation of its merits and fiscal effect.

Efficient administration is a vital requirement of any tax system. The establishment of regional boards of adjustment subject to final appeal at Washington would eliminate existing hardships and expedite final tax settlements. The elimination of "capital" gains and losses as income is an equitable demand in consonance with the best practice and experience of other nations. We recommend the repeal of special discriminatory war excise taxes. The adoption of a small expenditure tax would be an experiment of public advantage. We approve the recommendation of the Secretary of the Treasury for the reduction of maximum surtaxes to twenty-five per cent as a demonstrated means of enlarging national revenue through tempting additional capital to investment in reproductive industry. The taxing power ought never to be employed in attempts to accomplish economic equalization and but sparingly for purposes of regulation. A fair diffusion of the excise burdens requires each citizen to make at least some contribution to the support of government and assures his continuing interest in the practical operation of the tax policy.

Productive industry heavily taxed and with varying business hazard, is in constant need of new capital. It must compete for it with a vast and ever expanding offering of tax free public bonds. It is apparent that to no small degree they have become an investment refuge from oppressive rates and an inequitable distribution of tax burdens. The practical remedy is corrective legislation restoring the incentive to investment in private enterprise rather than the slow and

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is offered to some manufacturing concern desiring to expand its operations, to acquire an established business of more than sixty years' standing and having an organization thoroughly familiar with all its details, occupying a two-story brick factory building having approximately 30,000 square feet of manufacturing space.

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Particularly well adapted to be operated in conjunction with the manufacture of electrical devices, sheet metal articles, etc.

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dubious process of Constitutional amendment.

Immigration

We reassert the need of a permanent policy of selective immigration. We are as much opposed to unrestricted immigration as to the prohibition of all immigration. Our present law neither meets the economic or social aspects of our problem. Under the guise of restriction, it has practically operated to prohibit any substantial addition to alien male productive labor at a time when, according to the Secretary of Commerce, "we have recovered from an unemployment of five million to a surplus of five hundred thousand jobs." Socially, our present policy makes no attempt to meet the problem of systematically identifying, instructing, distributing and naturalizing resident aliens, or simplifying the method of deporting those advocating political change by violence. Asserting the paramount necessity of protecting our native stock, we lay a discriminating restraint upon the countries in which it originated, in comparison, for example, with Mexico.

Every consideration of economic necessity urges that the transition from reliance upon immigration to supplement native labor supply to drastic prohibition be accompanied by flexible administration which permits

practical accommodation to demonstrated need. The present law, or more drastic application of its policy, will intensify an increasing labor shortage without advantage to workers or consumers. The enlarging demand for production and service is stripping agriculture, demoralizing local labor supply and resulting in an abandonment of contemplated projects or an increase in costs that, adding nothing to the volume of production, can only increase nominal wages, while contracting their buying power.

We believe every manufacturer should endeavor to make more efficient use of the existing labor supply by developing and applying, wherever practicable, labor-saving devices, improved training methods, stabilizing production and energetically support the practicable proposal of the Secretary of Commerce to refer all but essential Federal and State work.

These aids are helpful but inconclusive. We still need not a negative but a permanent policy of selective immigration. Let us, through Federal coöperation with the States, accurately ascertain our immigration needs and opportunities. Through existing government agencies, let us present them in the countries of demonstrated assimilability, undertake, by agreement, to determine the admissibility of the applicant for admission before he embarks, assert the right and fulfill the obligation to register, intelligently distribute and instruct the alien during the period of his alienage, and induct him into citizenship under circumstances that emphasize the privilege, simplify the procedure of justifiable deportation and promptly evict from our territory the alien advocate of crime or political change by violence.

Service Men of the Great War

We urge upon our members the most generous coöperation with the Veterans' Bureau in placing in our industrial establishments veterans of war undergoing vocational and rehabilitation training in order that they be afforded the widest opportunity for development and advancement, which their industry, sacrifice and capacity justify.

We favor the continuance of speedy and adequate relief for all who are in whole or in part physically incapacitated by military service in the Great War, and for their dependents. We favor adequate hospitalization and the enlargement of educational and other opportunities, whether technical or general, for ex-service men.

The general and indiscriminate distribution of a bonus is neither morally nor economically justifiable. It would tend to lessen the inspiration and debase the motive of national service. It would be a positive harm to many individuals and would dangerously

overstrain our heavily burdened economic structure.

Judiciary

The effective settlement of disputes, the assertion of rights and the remedy of wrongs, depends in state and nation upon an honest, learned and independent judiciary. The unique characteristics of our government, the indispensable interpreter of our written Constitution, is found in our Federal Supreme Court. In any issue of right raised by a citizen against another or an agency of government, it must, as the people's final agent, determine, if conflict be established, which shall prevail; the permanent popular will expressed in the written Constitution, or a temporary act of legislation repugnant to it. Upon the continued existence and exercise of that power rests the final security of every right of person or property to protect which the people wrote seventy prohibitions against their legislative branch into their organic law. To-day it is proposed to impair or destroy that power and lodge in the legislative department the final right to determine the limit of its own power. The adoption of such a plan would create a Congressional autocrat. For the acid test of free institutions is the adequate protection of minority rights. This is the chief purpose of a written Constitution. A popular legislature which was the final judge of its own authority would know none.

The declaration that the Supreme Court "usurped" the power to invalidate acts in conflict with the Constitution is without a shred of historical support. On the contrary, the fact that that power was conferred was as distinctly understood and as clearly asserted as the fact of the adoption

SPAIN

General importer and manufacturers' representative wants to hear from Manufacturers (not jobbers) of greases, lubricants and oils; paints and varnishes; hard rubber goods such as combs, etc.; cutlery including safety razors; hardware; tools, mechanical and carpenters'; office appliances; electrical supplies; motors and dynamos; rubber goods; farm implements; lightweight motorcycles; kitchen ware, aluminum, porcelain, granite and enamel; hosiery; washable ribbons.

This importer pays cash for salable goods. Offers need not come from others than Manufacturers who are enough interested in the above market and in position to adjust prices so as to meet European quotations.

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of the instrument itself. The proposal to require more than a majority of the members of the Court to render an enforceable opinion while recognizing the majority principle in the election and acts of every other department of the government, is not only opposed to every tradition of the people of our blood, but would, in practice, transform every inferior court, Federal and State, into as many Supreme Courts, without a final arbitrator of their possible differences. Our institution, our civilization itself, demanding full possession of the powers conferred by the people.

"The judiciary of the United States: independent of party, independent of power, independent of popularity."

Expression of Appreciation to Our Guests, the Press and Hotel Management

This convention tenders its appreciation and thanks to the many distinguished guests who have honored us by the acceptance of our invitations and especially those amongst them who have favored us with addresses, all of which have been of unusual interest, timeliness and authority.

We extend to the representatives of the press our appreciation for the fullness and accuracy with which they have presented to their readers the proceedings of American industry in convention.

We beg to extend our further appreciation to the management and employes of the Waldorf-Astoria for their generous contribution to our comfort and convenience.

National Industrial Council

We desire to again recognize the exceptional services which are being rendered to both industry and country by the National Industrial Council which to-day, with its 312 manufacturers' associations, headed by the National Association of Manufacturers, constitutes the largest industrial federation in the history of the country.

We take occasion to in this manner convey appreciation to the industrial associations referred to, to tender them every coöperation, service and response within our power.

Merchant Marine

The national defense and the maintenance and development of prosperous commerce require an adequate privately owned and operated American merchant marine. Its ships built in American yards, of American material, by American labor, officered and owned by Americans and operating without arbitrary or unreasonable handicaps under our flag.

We urge the repeal or modification of every statutory restriction which tends to burden the competing capacity of American shipping without contributing to the safety of passen-

gers or goods or the adequate protection of the rights, quarters and living standards of our seamen. We recommend continued and increasing endeavors on the part of the executive and the United States Shipping Board to secure the operation of government merchant vessels and their ultimate ownership by our private citizens.

Fair, equitable and just rules respecting the carriage of goods by sea which fix the rights and liabilities of vessels and shippers are necessary in the development of a proper marine policy.

We reiterate the position of the Association as expressed in 1922 convention assembled. We recognize that "Hague Rules, 1921," now in the form of the Brussels Draft International Convention for the Unification of Certain Rules Relating to Bills of Lading, indicate distinct improvement, but in order that the statutory rights of American shippers under existing law and the expressed policy of the Association that no interruptions in commerce should be permitted, we suggest that these rules require further modification in order to bring them into harmony with American law and sound policy.

Amendments to Constitution and By-Laws

Impressed with the practical and invaluable services being rendered by the National Association of Manufacturers in increasing degree, and realizing how essential it is to American industry that the Association be given increased latitude for service, and recalling that portion of the annual address of our president which refers to our present Constitution and By-Laws, we urge the incoming Board of Directors to submit for the consideration and action of the membership such amendments as in its judgment will serve to strengthen the operations of the Association, and in preparing such amendments we urge that immediate consideration be given to the expediency of increasing the revenues of the Association.

Foreign Relations

We have an abiding interest in the betterment of social and political conditions in Europe. Among its people are our unforgettable Allies in the most awful struggle of history. With its States, we have enjoyed and hope to renew mutually beneficial social and commercial relations. We believe it to be our duty to intelligently and sympathetically contribute toward the material and political rehabilitation of Europe and the restoration of the social morale of its people by effective private and public economic coöperation involving no political alliance. We hold the European debts to us are moral and financial obligations and

should be met, but we realize that the settlement of the amount, mode and time of payment of reparations is essentials to the restoration of military and economic peace.

To deal practically with these conditions, we favor an enlargement of the powers of our Debt Funding Commission.

We recognize that domestic peace is sustained by the continuing determination of individual disputes through judicial process. We believe likewise that peace and good-will be practically promoted through the maintenance of an international court to which the nations establishing it appoint the judges, agree to submit all justiciable disputes between themselves and be morally bound by the ensuing judgment.

Platform for American Industry

Political answers are continually proposed to every serious economic problem. To study such proposals, to offer constructive suggestions, to assert and defend the fundamental principles of our institution in their application to industry and to address those about to declare public policies critically affecting our complex business structure, is at once the right and duty of a national organization of manufacturers.

To this end representative industrial leaders from every State in the Union participated in the preparation and presented to the conventions of our political parties the viewpoint of American industry upon public issues.

We recommend that the president and directors of the Association be authorized to invite a similar conference for the same purpose and the further presentation of such ascertained opinion upon public issues before other appropriate forums.

Transportation

We reiterate our belief in the necessity of developing a definite plan of national transportation inter-relating our waterways, railways and hard surface roads. We believe in privately owned and operated American railway system subject to rational public regulation. The nation requires adequate service by rail efficiently performed at reasonable rates. Public regulation must permit the carriers to earn a return continually attracting investment equal to their requirements in meeting the constant demand for improved facilities. It is the public interest to insure the largest administrative discretion to responsible management for the efficient development of railroad properties, the fairest opportunity for employes to secure the protection of their legitimate interests and opportunity for merited reward in advancement. The arbitrary interruption in service as a means of

settling railroad labor disputes is intolerable. We believe experience demonstrates that holding each party to a high degree of public responsibility, management of men, should be given wide latitude in the voluntary investigation of the circumstances of disagreement and at the sanction of informed public opinion, is a more effective and appropriate means of protecting the public interest than any form of compulsory arbitration.

We favor the permissive consolidation of the existing railway systems under conditions reasonably calculated to promote economies of operation, efficiency in management and the maintenance of competitive rivalry and service. We disapprove compulsory consolidation until it becomes evident that practicable plans of genuine public advantage are unreasonably rejected. The fundamental principle of the Transportation Act that rates must offer a fair return on the established value of investment is sound. The various provisions of the act have had but brief practical test and that under abnormal conditions. We urge its further trial to afford a fair estimate of its practical value and to insure the country a reasonable period of relief from demoralizing agitation.

We heartily endorse the program adopted by the major carriers to provide adequate transportation service for 1923. We congratulate them on the generous expenditure authorized for needed equipment and share with them their confidence in our national future and their trust in the fair response of the American people to this practical act of faith.

We specially believe in the practical value of district shippers' committees as a means of informing shippers to study not only local transportation needs, but the reciprocal requirements of others. We urge our members to cooperate with local traffic officials in a systematic effort to make the most efficient use of existing transportation facilities and equipment.

Patents and Trade Marks

We observe with appreciation that the efforts of the Association in co-operation with other industrial bodies aided in securing passage by the last Congress of partial necessary salary relief for required employees of the Patent Office. Under the provisions of a further act of Congress, this subject is now receiving additional investigation to which this Association is giving consideration. In reviewing the needs of this very important branch of the public service, the Association calls attention that in the reorganization and consolidation of government departments, the Patent Office should be transferred to the Department of Commerce.

We urge upon manufacturers the importance of protecting at home and abroad the value of American trade marks. We bring to the attention of the State Department the importance of this subject in all negotiations pending or proposed with other nations when considering treaties of commerce and amity.

The Coal Industry

The uninterrupted production and distribution of coal at reasonable cost is vital to our national health, safety and industry.

With more than half of the world's coal supply within our borders, coal never became a serious problem until after attempts at governmental regulation and organized combinations to interrupt production.

The significant words of the President of the United States recently declared to Congress:

"The simple but significant truth was revealed that except for such coal as comes from the districts worked by non-organized miners, the country is at the mercy of the United Mine Workers."

calls for an expression of appreciation on behalf of the people of the nation of the loyal services of the managers and employes of the non-union fields, who by their uninterrupted and effective labors preserved the households, transportation and productive industry of the United States from deprivation of essential fuel.

It is therefore in the public interest that continuing support be given to the preservation of an independent source of fuel supply, which no combination can arbitrarily close to the needs of our people.

We extend our coöperation to the United States Fuel Commission and urge upon its attention that no form of collective bargaining or agreement can receive public approval that is not accompanied by practical guarantee for its interpretation and the enforcement of its terms by independent adjudication in the event of disputes. It is recommended for thoughtful consideration that all such agreements by their terms include provision for their filing in established courts of record and in the event of dispute as to their meaning be subject to judicial interpretation, to which interpretation the parties thereto agree in advance to be bound.

The Army and Navy

We recognize and appreciate the necessary services of land and sea forces in the protection and promoting of our national interests. The Army and Navy must have that adequate support which will maintain the services at the highest necessary efficiency and allow for that reasonable degree of experimentation in new methods of

protective development.

The Association pledges its aid in the execution of plans now being developed under the supervision of the Assistant Secretary of War in conformity with the National Defense Act to enable industry promptly and harmoniously to coöperate with the government in taking advantage of the lessons of war in preparing adequate plans for the mobilization of industry and civilian training in the event of national need.

A proper respect for our domestic and foreign obligations requires the maintenance of the Navy and other protective forces at all times in high effectiveness to the full limits of international treaties and agreements.

We commend the condemnation by the Committee on Naval Affairs by the House of Representatives of the insidious proposals of the Hull bill to convert arsenals and navy yards into government manufacturing establishments, competing with private industry under a misleading method of estimating actual production cost.

Department of Commerce

We express appreciation of the efforts of the Secretary of Commerce to develop that great department to more adequately carry forward those activities of vital interest to productive industry.

We wish particularly to commend improvements in the census of manufactures in the informative and other services of the Bureau of Foreign and Domestic Commerce, to express our appreciation of the work of the Bureau of Standards and its Division of Simplified Practice, and to suggest to manufacturers generally the very worth-while work of these bureaus in the development of which this Association has gladly contributed.

Tariff

We reiterate our faith in and unswerving support of the protective principle as the essential means of effectively safeguarding American standards of production and living. We believe, however, that the practical application of the principle predicated upon the difference in productive conditions at home and abroad should be determined by continuing non-partisan scientific investigation and not by the sporadic play of political consideration. As the leader in the movement to secure greater flexibility in the administration of the tariff, we urge safeguarding the Tariff Commission from partisan influence or control, welcome the development of its authority and investigations as a practical means of ultimately removing the making of tariff schedules from political controversy to the controlling influence of impartially ascertained fact.

FOREIGN TRADE OPPORTUNITIES

CANADA

Popular priced underwear to cost not more than \$5.50; also a higher grade line for Canada. The representative in Canada of an American manufacturer of various articles in the haberdashery line is open for an agency in the above. (808)

CUBA

Cotton cloth suitable for the manufacture of men's underwear is of interest to a manufacturers' representative in Havana. (809)

Candy biscuit and canned goods. A firm of manufacturers' agents is interested in obtaining the representation of the above lines in Havana. (810)

MEXICO

Alkaline percarbonates of potash and soda and alkaline persulphates of potash and soda. A Mexican inquirer states that he could use considerable quantities of these goods if the prices are right. Correspondence in Spanish. (811)

Hats, clothing, shoes and men's furnishings for Mexico. A firm of manufacturers of hat sweat bands, also doing a general wholesale business in wearing apparel, desire to hear from manufacturers of the above. Correspondence in Spanish. (812)

Calendars, illustrated cards and art and advertising cards, generally are of interest to a manufacturers' representative in Mexico. Correspondence in Spanish. (813)

HAITI

Foodstuffs and provisions, shoe-makers' and saddlers' supplies, shipchandlery, tar, pitch, rosin, paints, oils, turpentine; haberdashery and clothing; soap, kerosene and oils. The inquirer desires American agencies for Haiti. Correspondence in French. (814)

Trimmed and untrimmed hats for women and children; ribbons; fine porcelains and bisques and glassware for Haiti. The inquirer desires catalogs and price lists. Correspondence in French. (815)

ARGENTINA

Shoe leather, calf skins, glazed kid, upper leather; also shoe ornaments of all kinds for women's shoes such as belts, embroideries, white metal ornaments, buckles, both metal and covered, pronged ornaments, leather bows, ribbon bows, pearl and covered buttons, etc. The inquirer desires to secure American agency connections in the above for Argentina. (816)

BRAZIL

Cattle dips and washes, disinfectants, etc., are of interest to a firm of importers in Brazil. (817)

CHILE

Textiles of all kinds, cotton hosiery, yarns; hosiery generally; hardware; stationery; glassware; paraffine wax; galvanized corrugated roofing, iron and plain galvanized iron sheets, japanned black wire, galvanized barbed wire; round and flat mild steel bars. A manufacturers' agent desires to secure American agencies in the above. (818)

PERU

Textiles of all kinds for Peru. A firm of manufacturers' agents desire American representations in the above. Correspondence in Spanish. (819)

ECUADOR

Butter; first and second grades of flour for Ecuador. The inquirers desire to secure American agencies in the above lines. Correspondence in Spanish. (820)

COLOMBIA

Cotton, silk and artificial silk and wool gloves, ordinary grades and embroidered for men, women and children; finished and lithographed cards for the manufacture of playing cards. A manufacturers' representative in Colombia desires to hear from American manufacturers. Correspondence in Spanish. (821)

Electrical supplies and equipment, engineering instruments, household furnishings of all kinds, bathroom fixtures, wash tubs, lavatories and sanitary fittings generally, aluminum and enameled ware, electro-plated ware, brass and iron bedsteads, kitchen ranges for coal and wood, oilcloth, bicycles and general novelties are of interest to a firm of general merchants in Colombia. Correspondence in Spanish. (822)

BRITISH GUIANA

Shirt and collar ironing machinery and apparatus for dry cleaning and dyeing of the smaller types, also chemicals used by dry cleaners, are required by a dye works in British Guiana. (823)

ITALY

Cotton ginning machinery for Italy. The inquirer desires quotations on this class of machine. Firms interested can secure particulars by applying for them to the Foreign Trade Department of the National Association of Manufacturers, giving number of this inquiry. (824)

Sausage casings, tin cans, caustic soda, potash, white and marbled laundry soap, straw wrapping paper. The inquirer desires to hear from American manufacturers, preferably with a view to representing them for Italy. (825)

SPAIN

Dry cleaning machinery and equipment generally is of interest to a merchant in Spain who desires catalogs and quotations C. I. F. or F. O. B. vessel, New York. (826)

FRANCE

Canned fish, lobsters, craw fish, salmon, crabs; sugared and unsugared milk. The inquirer desires American representations for France. Correspondence in French. (827)

Cans for packing talcum powder, oval shaped with screw sifter top; heavy cotton underwear for men, fleeced-lined; cotton hosiery of medium and low grades; cotton sheetings and shirtings. A firm of import and export commission merchants in Paris desire samples and quotations, stating that the goods are required for South America. Correspondence in French. (828)

ENGLAND

Potash alum, fine white crystals, granular or powder for a firm of chemical dealers in Great Britain. They buy in 50 ton lots, desire samples and material must be of good white quality and technically free from iron. Prices C. I. F. London. (829)

Peppermint oil (Wayne County). A firm of chemical dealers are interested in lots of ten to twenty cases each of the above. (830)

Nickeled wire folding coat hangers; also highly polished and enameled wooden coat hangers are of interest to a firm of importers in Great Britain. (831)

DENMARK

Dynamo and transformer sheets in various sizes; P. C. A. plates for deep-punching of milk pails; ship plates and pig iron, especially hematic, are of interest to a firm of machinery merchants and engineers in Denmark. (832)

LATVIA

Grain, flour, sugar, dried fruits and foodstuffs generally; agricultural machinery of all kinds for Latvia. A merchant and importer in Latvia desires to secure American connections in the above for the Baltic States. (833)

COMM. R. R.

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AMERICAN INDUSTRIES



Queen of the American Merchant Marine

JULY
1923

Published for the National Association of Manufacturers

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Corporations are realizing more and more the necessity of judicious publicity, in order that the public with which it deals, may be honestly informed. It is in services of this type that we have been most successful.

This organization comprises skilled and experienced men whose services are effective in many avenues of business publicity. Each of them is a skilled journalist, with unusual ability in the writing of copy, whether for the editorial or advertising columns.

Corporations and individuals interested in direct-by-mail sales campaigns or in the publication of inter-organization magazines for the stimulation of sales or the increase of the good will of employes will find this organization of great service.



F. Eugene Ackerman

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New York



Develop Your Business and Export Trade in Canada

If you are considering the establishment of your industry in Canada, either to develop your Canadian business or export trade, you are invited to

**Consult the Development Branch
of the Canadian Pacific
Railway**

An expert staff is maintained to acquire and investigate information relative to Canadian industrial raw materials. Any information you may require as to such raw materials as well as upon any practical problems affecting the establishment of your industry including markets, competition, labor costs, power, fuel, industrial sites, etc., will be given free of charge or obligation.

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IN THIS ISSUE

Cover illustration: The Great American merchant marine steamship "Leviathan" operated by the United States Lines, leaving port.

	Page
THE "LEVIATHAN," QUEEN OF THE AMERICAN MERCHANT MARINE ON HER FIRST TRIP - - - - -	5
THE CONSTITUTION OUR SUPREME LAW - - - - - By Henry A. Williams, of Williams, Sinks & Williams.	9
THE MOTOR TRUCK AND THE RAILROAD - - - - - By Percival White, Director of Development Aluminum Manufacturers Association.	16
RUBBER MANUFACTURERS ORGANIZE - - - - -	18
PORTS OF THE NATION—HOUSTON - - - - - By Burt Rule, Publicity Director, Houston Chamber of Commerce.	19
MEMPHIS AS A PRODUCTION CENTER - - - - - By H. S. Purser, Membership Secretary, Memphis Chamber of Commerce.	21
FIGHTING A FIRE BEFORE IT STARTS - - - - - By Harry Chase Brearley.	22
EDITORIALS - - - - -	24
PUBLIC UTILITY WINS THE COFFIN MEDAL - - - - -	26
THE INDIAN AS A LUMBER BARON - - - - - By Edgar P. Allen, National Lumber Manufacturers Association.	27
BUILDING AN INDUSTRIAL CITY - - - - -	31
SOURCES OF OUR IMMIGRATION - - - - - By Alexander Grau Wandmayer, formerly Commissioner of the Ukrainian Government.	34
BIG RECLAMATION PROJECTS PLANNED - - - - -	38
UNCLE SAM'S BALANCE SHEET - - - - - By Ollie Roscoe McGuire, General Accounting Office, Law Division, Treasury Dept.	39
CERTIFICATES OF ORIGIN FOR ITALY - - - - -	42
ARGENTINE BUSINESS AND THE TARIFF - - - - -	42
MACHINERY MARKETS IN ASIA - - - - -	42
FOREIGN TRADE OPPORTUNITIES - - - - -	45

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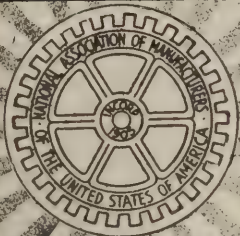
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AMERICAN INDUSTRIES

THE NATIONAL MAGAZINE FOR MANUFACTURERS

D. M. EDWARDS Editor and Manager

Vol. XXIII

JULY, 1923

No. 12

Leviathan, Queen Of The Seas!

Greatest and Fastest Steamship in the World is now on her first voyage flying the flag of the United States, an encouragement to our Merchant Marine and an inspiration to American industry

SPEEDIEST Queen of the Seas, the largest passenger vessel in the world and a floating monument to American engineering genius, the steamship *Leviathan* is now on her first voyage between the United States and Europe sailing under the Stars and Stripes and an outstanding credit to the American Merchant Marine. Representing everything that is modern in ship equipment, with the most luxurious cabins and every convenience for the safety and comfort of passenger, she will be a great impetus to the development of American international commerce and a constant inspiration to American tourists to travel under the flag of their own country. Reconstructed in an American yard by American workmen and fitted with the products of more than a hundred American manufacturers, she will be operated in the New York-Cherbourg-Plymouth service by the United States Lines, allocated to that company by the United States Shipping Board.

Reconditioned at a cost of something like \$8,500,000, the *Leviathan* is now the most superb craft in transatlantic service, and almost with the first turning of her oil-burning engines she has started out to make for herself in the passenger service a record equally as enviable as that established during the World War, when, as the *Vaterland*, she was taken from the German Government and put into transport service, carrying thousands of Americans to the battlefields of France.

Her run up from Newport News, where she had been reconditioned, to

Boston, was an encouraging performance; but on her recent trial trip, down toward the Bahamas and return she captured the palm as Queen of the Seas. She broke the world's speed record for a short spurt and then set up a world's speed record for a continuous twenty-five hour period, a feat which is deserving of more than casual comment.

When the great liner, with a party of official and invited guests aboard, turned northward off Jupiter Light, Florida, at 7:17 o'clock in the morning of June 21, she put on full speed ahead. She was in the Gulf Stream, with the water at a temperature of 85 degrees. For a period of two and three-quarter hours she made 28.04 knots; for six hours she averaged 28 knots and then for twenty-five hours she achieved the unparalleled record of 27.48 knots. This is almost one-half knot per hour faster than the record previously established and held for about ten years by the *Mauretania* of the Cunard Line, which had set up the record of 27.04 knots for the same period. The *Leviathan* traveled 687 nautical miles as against 676 covered by the *Mauretania* on her record run. The *Majestic*, second greatest ship in the world, is reported to have made 29.07 knots for several hours on a trial trip in the English Channel, but has not yet made any effort to lower the twenty-five hour record previously held by the *Mauretania*.

Interesting speculation has been indulged in because the *Leviathan's* test was made in the Gulf Stream with a favoring current, the strength of

which could not be determined. One pertinent point stands out. In spite of the fact that warm water retards speed through imperfect condensation, the *Leviathan* traveled a determined distance at a faster rate than any merchant ship had ever made it before. As against this, previous high records were made when conditions were most favorable. Edward C. Plummer, commissioner of the United States Shipping Board, a recognized high authority on shipping, declared that the spurt record previously made was in the English Channel with a favorable tide of from four to six knots an hour. When the *Mauretania* established her record, Commissioner Plummer explained, she was racing before a sudden storm of 71 knots velocity on a comparatively smooth sea. W. F. Gibbs, who had charge of the reconditioning of the *Leviathan*, and who was aboard on the trial run, said the American liner, running alongside the *Majestic*, would pass her by one and a half knots. Commissioner Plummer also predicted that the *Leviathan*, at a favorable time during the season, and under specially favorable conditions, would pass 29 knots.

As an offset to the help afforded by the Gulf Stream the temperature of the water was a distinct handicap. All previous records were made in water ranging from 60 to 65 degrees, giving a high vacuum in the condensers. The 85 degrees through which the *Leviathan* ran reduced the vacuum considerably and threw an unprecedented load on the condensers. It was estimated

the men who sat by watching the flow of oil or regulating the burners. In some places the engine room was more enjoyable than the promenade deck while passing through the tropics.

The *Leviathan* is the largest ship in the world, 950 feet long, 100 feet wide. With a gross tonnage of 59,956 she is 3,405 gross tons larger than the *Majestic*, the next in size. Everything about her is in keeping with this status. She has a total passenger capacity of 3,398 persons in her three cabins, she carries a crew of 1,276, making her a floating city of approximately 5,000 population. This means that on a one-way trip something like 100,000 meals must be prepared, and during one voyage the *Leviathan* will consume 93 tons of meat, 28 tons of fish, 3 tons of game birds, about 36 tons of poultry, 30 tons of potatoes, 10 tons of other vegetables; 8 tons of sugar, 3 tons of coffee and tea, 2 tons of ham, 7½ tons of butter, 36 tons of flour and 10 tons of jams. There will be used 12,285 quarts of milk, 1,000 boxes of oranges, apples and other fruits, and about 6,700 dozen eggs.

To properly set the tables for the breakfasts, luncheons and dinners 221,000 pieces of china will be used; 48,084 pieces of glassware and 71,798 pieces of silverware, in addition to innumerable table cloths and napkins sufficient to stock a big dealer in these wares for months.

Safety devices of every nature have been installed. Among these is a complete fire department. An automatic alarm system, which necessitated the running of 28 miles of copper tubing to every quarter of the huge craft, from the fire watchmen's room;



Non-sinkable, Non-capsizable Motor Life Boats

a sprinkler system and ten pumps, capable of throwing 1,670 gallons of water a minute, are among the precautionary apparatus on the ship.

Other safety apparatus includes four microphone submarine signals; thirteen water-tight bulkheads; eighteen sliding doors, hydraulically operated from the bridge; 69 life boats and two motor boats. The latter are

equipped with wireless.

Not only are the actual creature comforts of those traveling on the ship carefully arranged for, but their amusement as well. The spacious social hall will be the scene of many splendid balls and concerts. Games of many descriptions popular on board ship, will also be arranged for the entertainment of passengers. A library is also in both first and second cabins.

For those who are athletically inclined, the huge steamship is equipped with two complete gymnasiums, one in the first and one in the second cabin. First cabin passengers will also be able to enjoy a plunge in a large swimming pool, which when filled, holds 118 tons of water. The walker, desiring to stretch his legs, will find the promenade deck ideal for a hike. This deck, glass enclosed, has a circumference of 1,090 feet, and 4.8 turns about it are equal to a mile walk.

Visitors to the *Leviathan* will find the vessel bristling with points of interest. Not the least of these is the third "smoke stack," of the liner, which is not a smoke stack at all. This funnel, it is now disclosed, not only provides the forced draught for the ship's oil burning engines, but contains two gigantic water tanks. These tanks, each of ten thousand tons capacity, hold the water for the staterooms, baths and drinking water devices.



Fine Promenade on Boat Deck

Manufacturers' Motion Picture Service

National Association inaugurates national non-theatrical educational bureau, with eleven state associations in important pivotal cities co-operating as distributors for their sections

MEETING a demand from thousands of users of non-theatrical, non-commercial and educational motion pictures, manufacturers throughout the country, have lent their full co-operation to a national motion picture distribution project inaugurated by the National Association of Manufacturers, and put into operation simultaneously in all parts of the country on July 1. Eleven state manufacturing associations will act as distributing centers in pivotal sections of the country and will supply pictures without cost to private and public exhibitors in their various localities. The bureau will be conducted by "American Industries," the official magazine of the National Association of Manufacturers.

Industrial films, with an educational or informative basis; films on manufacturing processes, Americanization, safety, better citizenship and other lines for the general development of industry will be provided for each distributing center each month. They will be suitable for general showings, churches, schools, civic meetings, community centers, recreation centers, industrial groups, manufacturing and similar conventions, and factory groups, both management and men. All of the films are single reels, averaging fifteen minutes to a showing and are readily adaptable to almost any program. They are available to all persons and organizations, irrespective to their affiliations.

Following are the divisions of the national territory and the State Associations which will act as distributors:

1. Maine, New Hampshire, Vermont, Massachusetts and Rhode Island—distributed by the Associated Industries of Massachusetts; Orra L. Stone, general manager, Boston, Mass.

2. Pennsylvania, Delaware and Maryland—distributed by the Pennsylvania Manufacturers' Association; W. W. Finn, secretary, Philadelphia, Pa.

3. Indiana—distributed by the Indiana Manufacturers' Association; F. M. Smith, secretary, Indianapolis, Ind.

4. Michigan and Wisconsin—distributed by the Michigan Manufacturers' Association; J. L. Lovett, general manager, Detroit, Mich.

5. Illinois, Minnesota and Iowa—distributed by the Illinois Manufacturers' Association; John M. Glenn, secretary, Chicago, Ill.

6. Nebraska, North Dakota, South Dakota, Wyoming, Colorado and New Mexico—distributed by the Nebraska Manufacturers' Association; O. H. Zunkle, commissioner, Lincoln, Nebraska.

7. Washington, Montana, Idaho and Oregon—distributed by the Federated Industries of Washington; John H. McIntosh, general manager, Seattle, Wash.

8. California, Nevada, Utah and Arizona—distributed by the California Manufacturers' Association; Fred Boegle, Jr., secretary, Oakland, Cal.

9. Missouri, Kansas, Oklahoma, Texas and Arkansas—distributed by the Associated Industries of Missouri; Elmer Donnell, general manager, St. Louis, Mo.

10. Kentucky, Tennessee, Louisiana, Mississippi, and Alabama—distributed by the Kentucky Manufacturers' Association; C. C. Ousley, secretary, Louisville, Ky.

11. Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida—distributed by the Manufacturers' Association of Virginia; Frank G. Louthan, secretary, Richmond, Va.

12. New York, New Jersey and Connecticut—distributed by the National Association of Manufacturers, New York City.

SEE PAGE 44 FOR DETAILS OF DISTRIBUTION.

National Mine Plan Opposed By President

PRESIDENT HARDING, in his tour through Wyoming, came out flat-footed against any effort towards a nationalization of the coal industry.

"It may seem a far cry to talk about the coal problem in Wyoming," he said, "but it is one of the pressing problems of the country. In New England to-day there is anxiety about next winter's fuel supply, traceable to the experienced hardships of last winter. That severe trial, to New England in particular, followed the coal and railway strikes, when winter came on with inadequate supply and insufficient transportation facilities.

"The Government is not blind to the situation or deaf to appeals. It is doing everything possible, so far as authorized by law, to dispel public apprehension.

"Under the authority of an act of Congress the United States Coal Commission, made up of able and earnest men, has been engaged in a thorough

investigation of this vital problem and will report to the Congress next December. It is going thoroughly into the labor controversy, studying living conditions and the community life in the mining regions, ascertaining facts about the inadequacies which prevent prompt distribution, inquiring into engineering problems and the economic errors incident to our development, looking to excesses in profits reflected in inordinate charges for coal, and preparing an exhaustive report on the entire industry. It will be revealing and we hope, remedial.

"We shall know the facts about a basic industry, which is the source of peril to the nation's industrial life, and a more or less continuous threat to our domestic comfort, sometimes a menace to life and health.

"It is too early to say whether the commission will suggest plans of permanent cure, which the Congress will adopt. I do know that it will bring us to a new understanding of a problem

which must be solved. We shall have a publicity which will make greed impossible and point the way to solve a question which must be answered in behalf of a vital public interest.

"Doubtless there will be a recommendation of vast storage during seasons of light consumption to guard against the heavy needs in winter or in suspended production.

"Probably there will be recommendations for enhanced distribution, the need for which is already proven. There may be revelations as to cost of production, which will destroy price making abuses through insistent public opinion. I hope for the revelation of the economic blunder in operating mines half and quarter time, by which the higher labor costs are made necessary.

"Meanwhile, we shall better guard against inconvenience and hardship if the consuming public will help as best it can, without expecting the Government to assume all the responsibility."

The Constitution Our Supreme Law

Efforts of radical groups to override the fundamental policies of the nation will fail because they will destroy the entire system of checks and balances upon which our government was founded

Written especially for AMERICAN INDUSTRIES

By HENRY A. WILLIAMS

Member of the law firm of Williams, Sinks and Williams and Director, Columbus, (O.) National Bank

WHEN the Constitutional Convention completed its labors at Philadelphia in September of 1787, it submitted to the people of the United States for adoption, a complete constitution. The document so submitted contained, in Article VI and second paragraph thereof, among other provisions, the following:

"This constitution and the laws of the United States which shall be made in pursuance thereof; and all treaties made or which shall be made under the authority of the United States, shall be the Supreme Law of the Land; and the Judges in every state shall be bound thereby, anything in the Constitution or laws of any state to the contrary notwithstanding."

"The Senators and Representatives before mentioned and the members of the several state legislatures and all executive and judicial officers both of the United States and of the several states, shall be bound by oath or affirmation to support this Constitution."

Section 2 of Article III of the same instrument provided as follows:

"That the judicial power shall extend to all cases, in law and equity, arising under this Constitution, the laws of the United States and treaties made or which shall be made under their authority."

These same provisions appear without change in the Constitution as approved by the people. In this adoption of a formal written instrument as its fundamental law, by the action of the people of the United States, a new experiment in government was being undertaken. The idea of a written Constitution was a new one. In Great Britain, upon whose structure of government ours was largely patterned, such an instrument was unknown. Parliament consisting of the House of Lords, the House of Commons and the King, was the supreme legislative and judicial body of the kingdom. Any act passed by it was irreversible and inviolate except by like action of a subsequent session of the same legislative authority. The notion that any tribunal outside of Parliament should have the power or

authority to repel or nullify any act of that body, was inconceivable. However, the use of written Constitutions as the fundamental law of the realm



Henry A. Williams

was not entirely an anomaly in this country. There had been in limited use, constitutions and written charters long before the adoption of the Federal instrument and those constitutions and charters were paramount and controlling throughout the territory over which they were operative, so that while the founders of the National Constitution were in a broad sense pioneers in the making of this new plan of government, they were not entirely without precedent to guide their footsteps.

Even in England with its idea of legislative control there were a few great state papers, the provisions of which were recognized as of binding force even upon Parliament itself. These were especially Magna Charta and the Bill of Rights which set forth certain fundamental principles of justice and equality which neither the King nor his law making bodies could disregard.

But whatever may have been the situation in England; however satisfactory may have been the experience there of permitting the acts of Parliament to be supreme, it was plainly to be seen that no such arrangement was

feasible in the United States in the operation of the National Government which it was proposed to found. With a mixed system of state and federal governments, each controlling in its own sphere, only one plan could be workable. The federal government within the scope of the powers confided to it must be supreme. Otherwise intolerable confusion and conflict must ensue.

At this time, after the Constitution of the United States has been in successful operation for more than 130 years, no one openly questions its supremacy. No law, state or federal, confessedly at variance with or in opposition to its provisions would be supported by anyone as a valid enactment. This much is conceded, but there is by no means unanimity, upon a closely related point.

In a doubtful or disputed case, who is to determine whether or not there is conflict? When a statute is challenged as being inoperative and of no effect because it impinges upon some of the provisions of the Constitution, who is to say whether or not the enactment shall stand or fall?

At the time of the adoption of the Federal Constitution and during the early years of its administration, there does not seem to have been very much doubt about it. While it was true, there were here and there devoted advocates of state supremacy who voiced dissatisfaction and dissension, the great mass of public sentiment was settled in its conclusions. This consensus of opinion was voiced by John Marshall in the latter part of the year 1803 when he delivered his great opinion in the case of *Marbury vs. Madison*, and it was then generally accepted as the established doctrine that the judiciary was the proper tribunal by which such questions of conflict or agreement was to be determined, and this conviction became more and more settled as the nation swept forward in unparalleled growth and prosperity. For more than a generation the Supreme Court was recognized as the tribunal whose judgments announced the final interpretation of the supreme law of the land.

When Marshall died in 1835, and Andrew Jackson, a bitter opponent of federal supremacy and always a consistent advocate of state rights, had the opportunity to name his successor, Roger B. Taney, of Maryland became the head of the national court of last resort. His associates, or at least a majority of them, were likewise men whose tendencies were against the assertion of federal judicial supremacy, and under the administration of Taney culminating in the announcement of the Dred Scott decision, the Supreme Court of the United States in large measure lost its standing, both in actual power and in public estimation.

The election of Lincoln, the outbreak of the Civil War and the consequent demonstration of necessity for a strong central government emphasized also the necessity for a strong national interpretation of the provisions of the Constitution and of the powers of the national government. The adoption of the post bellum amendments and particularly the Fourteenth Amendment to the Constitution enlarged the jurisdiction of the Supreme Court and brought to that tribunal for judicial consideration and decision, many questions which theretofore were not within its cognizance. Again, the Supreme Court took the place in public favor which it had enjoyed so long under the masterly administration of John Marshall. But in these modern days when reform seems to be the order of the hour, and when a proposition need only to be labeled "new" in order to commend it to the favorable fancy of the reformer, we are having the old hostility to the Supreme Court pushed forward under the guise of a new doctrine. The claim is boldly made in certain quarters that the courts have never had the power to declare unconstitutional any act of any legislature, state or national.

It does not surprise us to read that the American Federation of Labor, under the leadership of Samuel Gompers, is not satisfied with the actions of the courts; that it should for example, at an international meeting held a year or two ago at Montreal, pass a resolution in which it is solemnly declared that there should be wrested from the courts, their "usurped power"—such is the phrase—of declaring legislative acts unconstitutional. Such action may be attributable, either to ignorance or to prejudice.

But when we observe a senator of the United States, assailing the Supreme Court in a public address on Flag Day, we may well have cause for serious reflection, nor is his offense lessened by the fact that he is address-

ing an annual convention of this same American Federation of Labor and is doubtless firm in his faith that his audience is not unfriendly to attacks upon the courts. I refer to a speech made by Senator La Follette, at Cincinnati, on June 14th last, in which he said:

"There is no sanction in the written Constitution of the United States for the power which the courts now assert. They have secured this power only by usurpation. I believe that the decision of the Supreme Court and the injunctions of the lower federal courts, coming as they have as the culmination of a long train of judicial usurpations have aroused every citizen who pretends to have any concern for the welfare of his country. I believe that this question of judicial usurpation is now the supreme issue."

Other members of the senate, notably Senator Capper, in recent years have made use of similar, if less violent language in expressing their belief that the courts have no power to declare laws unconstitutional.

It is not surprising, perhaps, that among the more radical members of Congress there should be found those who oppose the supremacy of the courts, for of course the only other alternative is legislative omnipotence, and it is natural for members of the law making body to insist that its powers should be supreme, but it is a little strange to find judges expressing views of like import.

Such attitude on the part of the courts, however, has not been infrequent. One of the most bitter opponents of judicial supremacy was Judge Spencer Roane, of Virginia. He was the close personal and political friend of Jefferson, and a life-long friend of John Marshall. Perhaps the fact that he would undoubtedly have been appointed Chief Justice of the United States instead of Marshall, had the appointment been made by Jefferson and not by Adams, may have fanned the flame of his enmity not only toward Marshall personally but also toward his judicial pronouncements. When the Chief Justice announced the decision of the Supreme Court in *Cohens vs. Virginia*, in 1821, and brought the State of Virginia before the bar of federal court, Judge Roane's attacks upon the Federal Judiciary became more violent and offensive. He said:

"In other countries the judicial is the weakest of the several departments of government and has been limited to the mere causes brought before it; ours aspires to a more elevated function. It claims the right not only to

control the operation of the co-ordinate departments of the government, but also to settle exclusively the chartered rights of the state."

Perhaps the most elaborate attack upon what is called the doctrine of judicial nullification, is that set forth in the dissenting opinion of Justice Gibson in the case of *Eakin vs. Raub*, decided in April, 1835, by the Supreme Court of Pennsylvania (reported in 12 Sergeant and Rawle, Pennsylvania Reports, 330). Justice Gibson was a great lawyer and a great judge and in this dissent he sets forth all of the arguments that have been urged against the doctrine. But even Justice Gibson admitted that the judiciary has authority to declare unconstitutional any act of a state assembly or a state constitution which is in conflict with the Constitution, laws or treaties of the United States, and later, publicly admitted that he had changed his views as expressed in his dissenting opinion. Other examples of this adverse attitude on the part of the courts might be cited. A recent instance is found in an article which appeared in the *Saturday Evening Post* of June 10, 1916, which is of interest to us because of the fact that the writer was then as now, a member of the Supreme Court of Ohio. Inasmuch as he was writing for a publication of unusually wide circulation and doubtless realized that through its columns he was addressing a large proportion of the reading public of the United States, we may well conclude that his views there expressed were carefully considered and that they embodied opinions deliberately formed only after mature reflection. Some of his conclusions are cited to show that this recrudescence of attack upon the authority of the courts influences members of the bench as well as members of the law-making bodies.

The writer said:

"No state statute can be passed to-day without asking the question: Will the Supreme Court let it stand?" "No city ordinance can be passed without asking the question: Will the Supreme Court let it stand?"

At another place, he writes:

"Shall this despotic power, long assumed and exercised, and constantly enlarged by our Supreme Court go on unchallenged, uncontrolled and unlimited in vetoing the great welfare work of the nation, the states and the municipalities, and in preventing the realization among men, women and children of the twentieth

century ideal of social and industrial justice?"

Again he writes:

"But here in the United States for more than a century, the courts have exercised this power without warrant of the constitution, but by authority of judicial custom and precedent which the courts themselves have widened and extended."

These are harsh words—"Usurpation," "Despotic power," "without warrant of the constitution." And if they are at all justifiable, we should give heed to them even though it should appear that they are opposed to the policy and practice of more than one hundred years of judicial administration.

Let us consider, first of all, whether this exercise of power of declaring laws unconstitutional is without "warrant of the Constitution." As we have already seen, the Constitution itself declares that it, and laws and treaties made in pursuance of or by its authority shall be the Supreme Law of the Land.

It is interesting to follow, through the various stages of their development, the provisions of the Constitution that were specially designed to assert and enforce the supremacy of the national government as against obstructive state action. Such provisions were first embodied in resolutions adopted upon the floor of the convention, and then were referred to the committee on detail to which was confined the task of formulating into final and harmonious form, the various Sections of the Constitution theretofore tentatively adopted. The committee made little change in the articles above mentioned. The only material addition consisted in the qualification that the legislative acts of the United States which were to be the supreme law should be such as were passed in pursuance of the Constitution. Subsequently the article was amended so as to make the Constitution itself and laws and treaties made thereunder, the Supreme Law of the Land and binding upon all judicial officers.

It is a significant fact that this provision was originally proposed by a very earnest advocate of the rights of the states, Luther Martin, of Maryland, one of the great lawyers of the convention. He had a deliberate purpose in view and that was to provide a new method for control of state legislation as a substitute for that which had been put forward in what was known as the Virginian plan. It will be readily recognized that one of the great problems of the Constitutional Convention was to provide the

manner in which state legislation should be controlled, so as to prevent conflict with the national congress. The first proposal was that this power should be exercised by virtue of a negative or a repeal by the national legislature upon all laws of the states, which in their opinion were in conflict with the articles of Union, or treaties made thereunder. The purpose of Luther Martin's substitute was therefore deliberately made in order to change a legislative power into a judicial power by transferring from the national legislature to the national judiciary, the right to determine whether a state law alleged to be in conflict with the Constitution, laws or treaties of the Union should be declared to be inoperative or valid.

That it was clearly understood by the people of the United States when they adopted the Constitution that the courts were to be the tribunal of last resort in the event of any challenge as to the validity of any law, because of lack of conformity to the constitution, cannot reasonably be questioned. In other words, the people deliberately declared that the Constitution, contained "the warrant," under authority of which the courts were to interpret the laws and determine the presence or absence of any conflict between legislative enactments and constitutional provisions.

As we all recognize, one of the great exponents of the provisions of the Federal Constitution was Alexander Hamilton, and one of the great instruments through which the meaning of its various terms and language was set forth was the *Federalist*. In No. 78 of that great series of papers, Hamilton set forth particularly an examination of the judiciary department of the proposed government. On page 257, Vol. 12, of the Henry Lodge Edition, he said:

"Some perplexity respecting the rights of the courts to pronounce legislative acts void, because contrary to the Constitution, has arisen from an imagination that the doctrine would imply a superiority of the judiciary to the legislative power. It is urged that the authority which can declare the acts of another void, must necessarily be superior to the one whose acts may be declared void. As this doctrine is of great importance in all the American constitutions, a brief discussion of the ground on which it rests cannot be unacceptable.

"There is no position which depends on clearer principles, than that every act of a delegated authority, contrary to the tenor of

the commission under which it is exercised, is void. No legislative act, therefore, contrary to the Constitution, can be valid. To deny this, would be to affirm, that the deputy is greater than his principal; that the servant is above his master; that the representatives of the people are superior to the people themselves; that men acting by virtue of powers, may do not only what their powers do not authorize, but what they forbid.

"If it be said that the legislative body are themselves the constitutional judges of their own powers, and that the construction they put upon them is conclusive upon the other departments, it may be answered, that this cannot be the natural presumption, where it is not to be collected from any particular provisions in the Constitution. It is not otherwise to be supposed, that the Constitution could intend to enable the representatives of the people to substitute their will to that of their constituents. It is far more rational to suppose, that the courts were designed to be an intermediate body between the people and the legislature, in order, among other things, to keep the latter within the limits assigned to their authority. The interpretation of the laws is the proper and peculiar province of the courts. A constitution is, in fact, and must be regarded by the judges, as a fundamental law. It therefore belongs to them to ascertain its meaning, as well as the meanings of any particular act proceeding from the legislative body. If there should happen to be an irreconcilable variance between the two, that which has the superior obligation and validity ought, of course, to be preferred; or, in other words, the Constitution ought to be preferred to the statute, the intention of the people to the intention of their agents."

Thus did Hamilton and the other protagonists of the Constitution set forth clearly and without equivocation the proposition that the courts must necessarily be the final interpreters of its provisions and the powers conferred by it.

Not only so, but in the various State Conventions called for the purpose of considering the question of the adoption of the Constitution, the power of the courts to restrain unauthorized legislation was under discussion. This was particularly true, in the conventions of Connecticut, North Carolina, Pennsylvania and Virginia. In the

state last named, during the debates upon various provisions of the Constitution, Patrick Henry, never an ardent Federalist, gave particular attention to the status of the national courts. He said that he regarded it as the highest ecomium of this country that the acts of the legislature, if unconstitutional, were liable to be opposed by the judiciary. Here, again, as in other states, the proposition is clearly recognized and plainly stated. Moreover, at the time the Federal Constitution was adopted the staae courts had theretofore exercised the power of declaring void and inoperative, statutes in conflict with constitutional prohibitions. Thus in 1786 the Supreme Court of Rhode Island had held invalid a statute of the Legislature of the state which purported to make a penalty collectible on summary conviction, that is, without trial by jury; this ruling being based upon the fact that the Colonial Charter which was then still in force as the constitution of the state secured the right to trial by jury in all such cases.

A similar ruling had theretofore been announced by the Supreme Court of New Jersey in the case of *Holmes vs. Walton* in 1780, and was reaffirmed in *Trevitt vs. Weedon*, in 1786, and a like question was raised in North Carolina in *Bayard vs. Singleton*, in 1787.

As early as 1772, in a case in Virginia, Madison argued that a legislative act was void, because contrary to natural right and justice. In May, 1778, the legislature of that commonwealth passed an act of attainder against one Josiah Phillips who was declared to be an outlaw. He was captured, but was tried and convicted of robbery, the act of attainder being disregarded, both by the prosecuting attorney and the court.

In 1782, in *Commonwealth vs. Caton*, an act of the legislature was directly challenged as being contrary to the Constitution.

The report of the case says:

"Chancellor Blair, with the rest of the judges, was of the opinion that the court had power to declare any resolution of the legislature or either branch of it, to be unconstitutional and void."

In New York the question was first raised in the case of *Rutgers vs. Washington*, decided in 1784, in which Hamilton was counsel, and the Mayor's Court of New York held unconstitutional and void, the so-called Trespass Act. This act which enabled citizens whose property had been occupied by others, during the British military occupancy, to bring damages against such persons for trespass, was widely known, and the case brought to enforce it attracted much attention.

These various decisions above cited were naturally well known to the lawyers of the important states in which they were rendered as well as to the leading lawyers in other states, many of whom were members of the Constitutional Convention and who were especially influential in bringing about its submission to the people of the United States. Moreover, the doctrine had been discussed in articles written for the public prints and in non-judicial state papers, both before and after the adoption of the constitution. Thus the principle that the courts were the tribunals of last resort in the interpretation of the constitution and in the enforcement of its provisions against state or national legislative infringement gradually spread in popular favor and in general acceptance until the year 1803 at which time the doctrine was finally and conclusively announced by Chief Justice Marshall in the celebrated decision in *Marbury vs. Madison*. His opinion in that case is a classic not only because of its cogent reasoning and unanswerable logic, but also because of the clear and unmistakable language in which it is phrased. The decision is officially reported in Cranch's First Report, at page 137 and the following. At page 176, in discussing this vital and fundamental question, the great Chief Justice said:

"The powers of legislatures are defined and limited; and that those limitations may not be mistaken or forgotten, the Constitution is written. To what purpose are powers limited and to what purpose is that limitation committed to writing, if these limitations may at any time be passed by those intended to be restrained. The distinction between a government with limited and unlimited powers is abolished if those limitations do not confine the persons on whom they are imposed and if acts prohibited and acts allowed are of equal obligation. It is a proposition too plain to be contested, that the constitution controls any legislative act repugnant to it; or that the legislature may alter the constitution by an ordinary act.

"Between these alternatives there is no middle ground. The constitution is either a superior paramount law unchangeable by ordinary means or it is on a level with ordinary legislative acts and like other acts is alterable when the legislature shall please to alter it.

"If the former part of the alternative be true, then a legislative act contrary to the Constitution is not law; if the latter part be true, then written con-

stitutions are absurd attempts on the part of the people to limit a power in its own nature illimitable.

"Certainly all those who have framed written constitutions contemplate them as forming the fundamental and paramount law of the nation and consequently the theory of every such government must be that an act of the legislature repugnant to the constitution is void."

The logic of these statements is so irresistible that it is not seriously contended at this time that a legislative act in conflict with the provisions of the constitution has any validity. This appears to be conceded. The contention, however, is on the part of certain persons and in certain quarters that while it is true that acts of the legislature in conflict with the constitution cannot stand, yet the legislature and not the courts are to be the final judges of such repugnancy. It is argued that the members of the legislative body equally with members of the judiciary, are bound by their oaths to support the constitution; that it must be presumed that their motives are as unselfish and their devotion to public duty is as high as that of the judges and that therefore they will not violate their oaths and will not pass laws in conflict with constitutional inhibitions; that in fine the people may rely upon the sanctity of the legislative oaths and that this will be sufficient to prevent any conflict between legislative acts and the constitution. Unfortunately, beautiful as this theory may be in its conception, the experience of our country does not justify its adoption in actual practice.

In the brief of Solicitor-General James M. Beck, in the child labor law cases recently submitted to the Supreme Court of the United States, the statement is made that the Supreme Court has declared more than thirty congressional statutes unconstitutional while at least a thousand state laws have thus been nullified. These figures are adopted with approval by Charles W. Peirson in his recent work on "Our Changing Constitution," at page 12, and we may assume that they are substantially correct.

Thus it is clear that we cannot confide to the uncertain opinion of the legislature this fundamental question of determining the limits of the law making power.

Indeed, Marshall in his opinion to which we have already referred, concluded his statement of the fundamental principles upon which the supremacy of the Constitution must rest by declaring as follows:

"It is emphatically the preference and duty of the judicial department to say what the law

is. Those who apply the rule to particular cases must of necessity expound and interpret that rule. If two laws conflict with each other, the courts must decide on the operation of each.

"So if a law be in opposition to the Constitution; if both the law and the Constitution apply to a particular case, so that the court must either decide that case conformably to the law, disregarding the Constitution; or conformably to the Constitution, disregarding the law; the court must decide which of these conflicting rules governs the case. This is of the very essence of judicial duty."

Not only must this necessarily be true, but it also follows that no occasion can arise making necessary a decision as to the conflict or non-conflict of a legislative enactment and a provision of the Constitution except juridically. By that I mean that there must be litigation between parties to a suit asserting or denying rights which arise under legislative enactments or constitutional provisions. For, otherwise, the question is a mere moot question which calls for no decision. Let me illustrate by what may seem to be a rather forced example. Let us assume that the legislature of some state, Ohio for example, has passed an act which provides that any person over ten feet high who is found guilty of murder, shall be punished by being first immersed in boiling oil and then shall be drawn and quartered. It will immediately appear that such an enactment is in clear violation of the provisions of the Constitution of the United States as set forth in the Eighth Amendment thereto, which provides that cruel or unusual punishment shall not be inflicted. It is quite clear, however, that this manifest infringement by the state enactment of a provision of the Federal Constitution is a mere paper conflict for the reason that in all human probability there never will be a person to whom the legislative enactment may apply. In all the history of mankind so far as is known, there has been no person who has attained the height of ten feet. There being, therefore, no person whose rights will be affected by this enactment, there will be no occasion even to challenge its constitutionality and, consequently it will simply remain a dead letter upon the statute books of the state.

Or let us suppose another case, that the legislature of Ohio has passed an act which provides that from and after the first day of July, 1923, all persons found guilty of murder in the first degree in the State of Ohio, shall be punished in the heartless and bar-

barous way, which we have already supposed in the preceding hypothetical case. Let us suppose that thereafter no one is ever convicted of murder in the first degree in the State of Ohio. Here again we have a case where an unconstitutional act clearly and admittedly so is on the statute books of the State of Ohio, yet because of the fact that no one has ever come within the scope of its provisions, it remains unenforceable and presents a mere theoretical conflict with such provision of the constitution, which conflict never becomes actual and never need become a matter for judicial consideration and decision.

Let us apply this rule to an actual situation. The case to which I refer is that of *Lochner vs. The People of the State of New York*. A case quite noted in judicial annals by reason of the fact that the act of legislature to which I shall make more specific reference was declared to be a valid exercise of police power and to be valid legislation by the Court of Appeals of New York by a vote of 4 to 3, Alton B. Parker, then Chief Justice, delivering the opinion of the Court. On review by the Supreme Court of the United States, the act was held to be unconstitutional and not a valid exercise of the power and as being a violation of the property rights of persons affected thereby, the decision of that distinguished tribunal being by the vote of 5 to 4, the decision of the Court of Appeals of New York, being found in 177 N. Y., 145, and the decision of the Supreme Court of the United States being found in 198 U. S., 45.

The act complained of provided that no employe should be required or permitted to work in biscuit, bread or cake bakeries or confectionery establishments more than sixty hours in any one week or more than ten hours in any one day unless for the purpose of making a shorter work day on the last day of the week, nor more hours in any other week than will make an average of ten hours per day for the number of days during such week in which such employe shall work. Suppose that all employers whose employes were affected by this legislation should have been of the opinion that the act was unconstitutional; that it was an arbitrary interference with the freedom to contract, guaranteed to them by the Fourteenth Amendment to the Federal Constitution. Let us further assume, that, notwithstanding this belief on their part, they had agreed among themselves, that they would, nevertheless, comply with its terms, and would not require their employes to labor longer than the various periods of time designated in the law. It will readily be seen that in such event there would be no case or

controversy for anybody to try, for while an alleged conflict of state legislation with the national Constitution would theoretically be presented, there would be no actual conflict because no one's rights would be interfered with. There would, therefore, be no necessity for a decision and no occasion for anyone to decide whether or not the claimed conflict actually existed.

Thus we see that in order that there may be a decision of a supposed infringement of constitutional prohibitions by state legislation, there must be presented a case for judicial examination and decision. Otherwise, the question is a mere moot question requiring no action.

Furthermore, there are two fundamental principles of statutory construction that have immediate bearing upon the question now under discussion.

The first is that every law duly passed by a law making body is presumed to be valid until it is challenged in the proper tribunal by some one whose rights are directly affected.

The other is that the question of the constitutionality of an act will not be passed upon by the court unless a decision of that question is necessary to the determination of the action.

A very striking illustration of the point which I am seeking to emphasize is found in a comparatively recent decision of the Supreme Court of the United States in the case of *Muskat vs. United States*, 19 U. S., 346.

Congress had legislated concerning the distribution of property belonging to the Cherokee Indians, and doubts had arisen as to the constitutional validity of the legislation. In order that this doubt might be removed, Congress passed another act empowering one David Muskrat and other Cherokee citizens to file suit naming the United States as defendant so that the point in question might be adjudicated and settled. The Supreme Court declined to take jurisdiction of the case and dismissed the suit, holding that the action thus brought before them although so brought by Congressional sanction, was not a case or controversy between opposing parties within the meaning of the constitution.

In deliberating the opinion of the Court, Justice Day had occasion to consider the opinion of Chief Justice Marshall in *Marbury vs. Madison*, and declared that the learned jurist had been careful to point out:

"That the right to declare an act of Congress unconstitutional could only be exercised when a proper case between opposing parties was submitted for judicial determination; that there was no general veto power in the Court upon the legislation of Congress; that the authority to declare an

act unconstitutional sprang from the requirement that the Court in administering the law and pronouncing judgment between the parties to a case and choosing between the requirements of the fundamental law established by the people and embodied in the constitution and an act of the agents of the people acting under authority of the constitution should enforce the constitution as the Supreme Law of the Land."

Notwithstanding the fact that it has been recognized for more than one hundred years, as evidenced by the uniform practice of all of the courts of the United States, both state and federal, that the judiciary is the proper tribunal in which should be decided the question of conflict between constitutional provisions and legislative enactments, it is now seriously proposed by certain interests that the courts when exercising this power shall be subject to review by the legislature. Perhaps the proposed reform is as clearly defined as it will be found anywhere in the speech of Senator LaFollette to which I have already referred. The gentleman proposes that "This usurped judicial veto," as he phrases it, shall be overridden and this it is proposed to do by the adoption of a Constitutional Amendment which shall read as follows:

"That no inferior federal judge shall set aside a law of congress on the ground that it is unconstitutional. That if the Supreme Court assumes to decide any law unconstitutional, or by interpretation undertakes to assert a public policy at variance with the statutory declaration of Congress, which alone under our system is authorized to determine the public policies of government, the Congress may, by re-passing the law nullify the action of the Court."

In other words, it is proposed that the Congress and not the Constitution shall continue the source of the Supreme Law of the Land.

If this proposed constitutional amendment should be adopted then we would have this unique feature in our governmental machinery! Congress would have the power to pass an act. If the executive doubts its wisdom or propriety, he has the right to veto. If the Congress, when the enactment with the veto, together with the executive's objections thereto, is returned to it, sees fit upon reconsideration to pass it by a two-thirds vote of each of the Houses of Congress, it shall become a law notwithstanding the executive's disapproval. If then, the law should be challenged in the courts, in a proper case, and it should be held to be un-

constitutional because in conflict with provisions of that instrument, it would then be returned to Congress and Congress may re-pass the law, and as the Amendment is proposed this would require only a majority. The Legislature would thus nullify and over-ride the judiciary as it had theretofore overridden the executive.

Such a theory of government would utterly destroy the system of checks and balances upon which our government was founded. It would destroy the division of the powers and functions of government into three great departments which division, since the foundation of our country, has been one of the distinguishing characteristics of our form of government, and the supremacy of a written Constitution with limitation of legislative powers would be ended.

The protection afforded to our citizens in their lives, liberties and property against the paramount and arbitrary will of Congress, would be destroyed.

The fundamental rights which our forefathers supposed they were guaranteeing to themselves and their posterity by the adoption of the celebrated bill of rights set forth in the first ten amendments to the Constitution would be gone.

The great fundamental principles of free government would have for their security, not the slowly-developed and carefully-reasoned decisions of the courts, but would depend entirely upon the whim and caprice of legislative bodies.

That which was declared to be the Supreme Law of the Land to-day by one Congress might be repealed and nullified by a new Congress that would be assembling on the morrow.

There could be no stability of government, no security of contractual relations and no permanence in public or private institutions, were such a system to be adopted.

Judicial interpretation of constitutional provisions and judicial restraint upon Congressional legislation even though such decisions may seem at times to be opposed to progressive policies, have been the safeguard of this country. Although the judiciary has been and necessarily must be a restraining influence upon hasty legislative and executive action, it has not been difficult to meet the necessities for a change of judicial attitude when those occasions properly arise. No decision of any court was more unpopular than the decision commonly known as the Dred Scott decision, in which the fugitive slave law was held to be constitutional. Although this decision was opposed to the great weight of public opinion in the North,

it served its purpose and by declaring such legislation to be constitutional it directed the attention of thoughtful people to the necessity for constitutional change by the regular process of amendment.

We have had similar instances in later years, notably the decisions upon income tax legislation, the court having declared such a scheme of taxation to be in conflict with the provisions of the Federal Constitution, and public opinion being in favor of such legislation, the Constitution was amended in an orderly and regular way so as to permit such enactments to be made constitutionally and in accord with the Supreme Law of the Land. A recent decision of the Supreme Court of the United States in what is known as the child labor law, case, has provoked wide and in many instances unfavorable discussion and criticism. The fault lies not with the Supreme Court, but with the Constitution, and if the weight of public opinion is sufficient an amendment to the Federal Constitution may be regularly brought about in such a way as to permit Congressional legislation upon this subject, the limitation now being such that the prohibitions of such labor in the manner proposed does not lie with Congress but must be enforced by the various legislatures of the several states.

Another consideration which must urge itself in connection with the consideration of the feasibility or necessity of the proposed amendment is founded upon the essential difference in the method of determining questions in legislative bodies as contrasted with the courts. Let us consider again the *Lochner* case to which I have already referred. There a legislative enactment of the State of New York was deemed to be an infringement upon the fundamental rights of a certain class of citizens, to wit, the employers of certain designated kinds of labor. The act provided that if this labor were employed beyond certain designated periods the employer so requiring such employment should be deemed guilty of a misdemeanor. The employers believing that this legislation was in violation of their rights, declined to comply with its terms and one of them was arrested and was convicted of a violation of the act. He had, of course, a trial in the criminal division of the Oneida County Court. The case was regularly prosecuted and argued pro and con, and submitted to the Court and its decision rendered only after weighty consideration of the legal arguments presented. It then went to the Appellate Division for review and was again argued on the law points involved before a Court made up of three men trained in the

consideration and decision of legal questions. There, after due consideration, it went to the Court of Appeals of New York, was again argued and submitted for consideration and decision to that Court, made up of men of experience and learning, seven in number. From that Court it went upon writ of error to the Supreme Court of the United States and was there considered after arguments by counsel presenting both sides of the question, and finally decided by the Court. The decisions of the Court in the Appellate Division, in the Court of Appeals of New York, and in the Supreme Court of the United States, were rendered in the form of written opinions, carefully prepared where the questions presented were logically reasoned out and these opinions were prepared in permanent form and printed in volumes intended for a public record for the guidance of the Bar and the Bench, in the decision of cases involving questions of like character.

If the Constitutional Amendment should be adopted as proposed, we would substitute as the tribunal of last resort for the orderly and deliberate decisions of the judiciary, the hasty and oftentimes ill considered actions of state legislatures or Congress. In legislative action there is no requirement that both sides of the question shall be presented. The enactment is oftentimes on an ex-parte hearing; passion and prejudice are too often the motives of action. There is no rule nor established procedure that requires that the reasons for any act shall be set forth. The only thing that will be necessary in order to bring about the passage of any act, however unreasonable or however plainly a violation of the Constitution, will be the presence of a legislative majority determined upon the passage of the act.

Another method by which it is proposed to limit the powers and effectiveness of the courts is embodied in proposals requiring the concurrence of more than a majority of the Reviewing Court before a Federal law may be declared to be unconstitutional. These suggestions as to constitutional amendments vary in form from the requirement of a unanimous vote of the United States Supreme Court to that of requiring a vote of six of its nine members. While this form of judicial restraint is much less objectionable than that advocated by Senator LaFollette, it is still essentially destructive of the full and free exercise of independent action by the courts and should not be adopted.

The judiciary in its very nature is the weakest of the three great fundamental divisions of our government.

It has been repeatedly said the legislature holds the purse and the executive wields the sword. The courts are at the mercy of both. The power that they exert finds its sources in the support of public opinion and the judges must win and hold that support, if their mandates are to be enforced. We have seen for example, in the history of this country, how Congress was able to prevent action on the part of the Supreme Court, by abolishing one of its sessions in the early years of Jefferson's term. As a result, the court was not able to sit for more than fourteen months. This was practically a legislative denial of justice to litigants who had causes pending in that tribunal.

So, too, by hostile attitude or even by inactivity, the executive may nullify the decision of the courts. A notable instance may be found in the case of the Cherokee Indians involved in an action which Marshall had to decide. There the Supreme Court held that an act of the Georgia Legislature was in conflict with the terms of a treaty made by the United States. The state authorities refused to recognize the validity of the decision and announced their intention of resisting any attempt upon the part of the court officials to carry it into effect. Andrew Jackson was then President. His consistent opposition to anything that savored of a strong central government is well known and "that hostility was especially manifested against the power of the federal courts. He refused to exercise the executive authority in aid of the enforcement of the decree of the Court. He said:

"John Marshall has made his decision; now let him enforce it."

Because of the very nature of the judiciary, therefore, nothing should be done that would tend to impair the independent action of the individual judge. Under this last proposed amendment, while nothing is said as to the powers of the inferior federal judges, it may well be apprehended that the effect would be to restrain such judges from declaring any law unconstitutional. The LaFollette proposal expressly so declares.

Every litigant whose case comes before any judge, state or federal, is entitled to have the free and unconstrained opinion of the court and each member thereof upon every question in the cause, the decision of which may affect his rights therein involved. If such rights are claimed or denied by virtue of any enactment, which is in conflict with any constitutional grant or restriction, it is the duty of the court so to declare, and the judge would be recreant to his oath if he sought to evade it. And yet, it is proposed by constitutional amendment to provide that a judge in certain contingencies shall not be permitted to perform a duty, which the sanctity of his oath casts upon him.

Furthermore, if the proposed amendment should be adopted, the effect of it would be to nullify the solemn and deliberate judgment of a majority of the judges of the Supreme Court.

Lord Brougham once said:

"It was the boast of Augustus that he found Rome of brick and left it of marble. How much nobler would be the sovereign's boast if it could be his to say that he found the law dear and left it cheap; that he found it a sealed book and left it an open letter; that he found it the patrimony of the rich and left it the inheritance of the poor; that he found it the sword of oppression and left it the staff of infirmity and the shield of innocence."

If it is our desire in this country to attain to this high ideal of the administration of justice, so beautifully portrayed by Lord Brougham, we must keep our judiciary free and untrammelled. We must keep the sources of judicial interpretation unfettered by legislative or executive interference. In the power and dignity of the Courts, rests the future of the republic, and we cannot afford to rely upon any other foundation or to place elsewhere the pronouncement of what is and what shall continue to be the Supreme Law of the Land.

Cement Production Record

With a production of nearly 13,000,000 barrels of cement in May the cement industry of the country established a new high record for any single month. May production was more than 1,500,000 barrels greater than in April and 1,700,000 barrels or fifteen per cent greater than in May, 1922. For the first five months of the current year production very closely ap-

proached the 50,000,000 barrel mark.

Shipments from the mills during May were also heavy and reached a total of 14,257,000 barrels or twelve per cent more than in May, 1922. For the five months' period ending May 31, shipments were approximately 48,900,000 as compared with about 34,600,000 during the first five months of 1922, the best previous record.

The Motor Truck And The Railroad

Rapid development of gasoline transportation is discussed completely in its relation to the long-established systems, each having a definite duty which cannot be supplanted by the other

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IN all discussion of the relative position of the railroads and the motor truck, there is one point which should be kept clearly in mind. Whatever agency can furnish transportation in the cheapest and most expeditious fashion will undoubtedly prevail. This is merely the expression of an economic law. Furthermore, the exact functions and limitations of the truck will be determined by this same law.

Those who say the motor truck will oust the railroad are predicting fallaciously, because they have no logical reason to suppose the motor truck will be able to supplant the railroad for long hauls. Those, on the contrary, who argue that the motor truck cannot compete with the railroad in any way whatever are gainsaying an accomplished fact.

There has been some controversy of this sort between railways and trucking companies. This friction has been inevitable, because of the radical changes made necessary by the motor truck in an already established system of transportation. Had the motor truck and the railroad been of simultaneous origin and development, the exact sphere of each would long since have been defined. Since this was not the case, we are now in a position where the railroad will have to adjust itself to changed conditions, not by attempting to do away with the motor truck where competition is not feasible from the viewpoint of profits, but by using the motor truck as an adjunct and ally. In this way volume of transportation will be increased and both trucks and railroads will profit.

Effects of Railroad Development:—Until comparatively recently, the various railroad companies looked upon themselves as purely competitive organizations, rather than members in one great public service. This situation is still present, although in less marked degree. There is still but little attempt on the part of the railroads to work together efficiently. Had there been any such endeavor, we should hardly have such a situation as exists

to-day in New York City, with a Grand Central and Pennsylvania terminal on the island of Manhattan, and various other railroads terminating in New Jersey, inefficiently ferrying over cargoes of passengers and freight. Neither should we see the spectacle presented by some of our Middle Western cities, where a multiplicity of terminals makes the shipping problem for the manufacturers truly diversified.

Competition when carried beyond a certain healthy spirit of rivalry and emulation means waste. We have, therefore, built much useless railroad, or, if not exactly useless, at least unnecessary.

There are six hundred and fifty so-called short-line railroads in the United States. These railroads have an average mileage of something under one hundred miles. Together, they have a total mileage of 16,000 miles, or an average of approximately twenty-five miles. Four hundred and seventeen of them have a mileage less than twenty-five miles, and one hundred and sixty less than ten miles. It is the short-line railroad which must struggle for its existence against the motor truck, because the motor truck here is in a position to afford cheaper and more rapid freight service.

In New England, a territory where the chief cities are separated from each other by comparatively short distances, this problem is particularly acute. Here, the railroads are short-haul transportation units and their profits are unquestionably being cut to the bone by truck competition.

The Relative Position of Truck and Railroad:—It is agreed that the truck is not a long-haul factor. George M. Graham, sales manager of the Pierce-Arrow Motor Car Company, testified before a Congressional committee that the mere element of labor prevents the motor truck from competing with the railroad on the long haul. It is possible to send 3,000 tons of merchandise from Chicago to New York with a crew of six men on a railroad freight train. To do that with five-ton trucks would mean six hundred trucks, six hundred drivers, and probably six hundred helpers.

He believes the greater part of the

commercial vehicles will travel over the infinite number of smaller connecting market roads, rather than over the main highways. That is, the function of the truck will be to carry from the initial point to the concentrating point. For long distances and for car-load business from the shipper's factory, the railroad is under ordinary circumstances more economical.

The reason it is impossible to determine as yet the economic range of the truck is because it is not yet on a permanent basis. This does not mean it is not here to stay. It is. But truck rates have hardly begun to be standardized, while regulation of trucks as public carriers is not yet completed. That is, until the truck is placed on the same basis as the railroad, we cannot determine just how far the railroad should sacrifice short-haul traffic to the truck, and how far the truck can compete successfully with the railroad.

Gerritt Fort, Vice-President of the Boston & Maine Railroad, states four things which, in his opinion, must come to pass before the relative spheres of the motor truck and the railroad can be adjusted:

1. Truck operators must pay their fair share of the cost of highway construction and maintenance. That is, he believes the truck should return to the state the outlay which its operation costs. That the truck should pay for its share of maintenance few will dispute, but that the truck should be taxed for the entire construction of the roads is hardly fair.

2. Truck lines engaged in the business of common carriers between incorporated cities and towns should be placed under the supervision of the Interstate Commerce Commission and the state regulatory bodies. This means regulation of tariffs and rates and the granting of a certificate of convenience and necessity analogous to the common practice in the case of bus lines. For the protection of the truck operator himself, this provision is desirable.

3. The present short-haul railroad rates must be scaled down as promptly as possible.

4. The service of the railroad and the truck must be fully co-ordinated.

* (In "Motor Transportation of Merchandise and Passengers." Published by McGraw-Hill Book Company.)

Supplementing Railroad Service:—Where can the truck supplement railroad transportation of freight effectively and economically? The answer would seem to be by acting as a feeder, by solving the terminal problem, and, paradoxically enough, by competing successfully with the short haul. The first two methods are proving of great help to the railroads, while the last is really a blessing in disguise to the railroads. On the authority of R. C. Wright, general traffic manager of the Pennsylvania Railroad, there is no profit in the haulage of freight by a railroad for a distance under forty miles. In fact, it imposes a burden on the trunk lines to move freight from points of origin off the trunk line, because movement on the trunk line must overcome the deficit before it has a chance to pay expenses and make a profit. The railroads originally had to build these spurs as feeders, and because as common carriers they had to give service to the entire district.

The truck, then, is applied to railroad problems in the following ways:

1. As a solution of the terminal problem. Almost any railroad man will agree that the biggest defect in railroad operation is junction and terminal congestion. This is, in fact, so bad that the average mileage of a freight car per diem is astonishingly low, in spite of the fact that it runs all night. We have no definite figures on terminal expenses, but we do know that they are equal to the cost of hauling the freight many miles over the road. Anything which the motor truck can do to relieve this congestion is adding just so much to transportation efficiency and consequent efficiency in production and distribution.

2. As a feeder: The horse as a hauler definitely limited the territory from which the railroad could draw. It is now possible for the man twenty miles or more from the railroad to ship to all portions of the country by hauling with motor trucks to the nearest railroad station.

3. For the short haul: The short-haul problem has two aspects, each slightly different. In the first place, there is the short haul out of a metropolitan center over roads radiating in all directions. In this case the load usually originates in the city and the return load is the great problem. In the second place, there is the short haul between two cities where freight moves both ways. The lower haulage cost of the railroad cannot overcome the extra costs of transferring at each end of the line, extra handling, and special packing, all of which the motor truck avoids.

Costs:—It is almost impossible for the railroads to figure out what it costs

them to handle package freight short distances to points where there is no through-car movement. It is almost equally impossible for the shippers to ascertain these costs. Transportation costs, according to W. J. L. Banham, general manager of the Otis Elevator Company, "include all expenses involved in making a shipment, starting with the boxing or packing expenses, together with handling expense in the shipping department, loading of freight on teams for delivery to the freight house, teaming charges from the shipping department to the local freight house, and additional labor incidental thereto. It is necessary to add to these the less than carload freight rate and additional cartage charges at the delivery point. There may be extra expense caused by tracing, duplication of shipments lost or damaged in transit, entering of claims, checking of freight bills, delay to shipments in transit, and the expense of carrying additional stock to take care of freight in transit when moving via rail carriers."

Either the shipper or the receiver pays these transportation costs. To compare transportation costs by motor truck with those by rail, certain items can at once be eliminated, notably the extra cost of preparing less than carload lots for rail shipment, which usually requires crating or other special form of packing.

In an endeavor to work out the range within which the motor truck could be successfully operated, Mr. Banham several years ago made up a table of comparative costs, the rates based on Newark. In the freight cost item are included additional crating, additional labor, and other items mentioned above. The first-class rate has been used plus 30 cents a hundred for teaming charges at shipping and receiving points. Seventeen per cent has been added for cost of carrying increased weight caused by heavy boxes, and 24 cents per hundred for increased cost of boxing. Rate via motor truck covers delivery from the shipper's warehouse to the receiver's warehouse. On shipments from Newark to Yonkers, by combining all transportation costs, the rate was \$1.00 a hundred. By motor truck the rate averaged \$0.20, a difference of \$0.80 a hundred pounds in favor of the motor truck.

The motor truck owner, in computing his charges, does not have to count in the truly stupendous fixed expenses of the railroad system. His own fixed charges are microscopic in comparison. It is said that behind every railroad employe there is an investment of ten thousand dollars in rolling stock, road beds, tracks, build-

ings, stations, roundhouses and repair shops, etc.

The following figures will give some idea as to comparative costs:

	Road Miles	Freight Cost per 100 lbs.	Motor Truck Cost per 100 lbs.
New York City...	12	\$0.88	\$0.15
Passaic, N. J.....	6	.88	.15
Paterson, N. J....	10	.88	.18
Trenton, N. J....	51	.88	.55
Philadelphia, Pa. .	88	.98	.75
Bridgeport, Conn...	70	1.12	.75
New Haven, Conn.	87	1.12	.85
Providence, R. I. .	214	1.21	1.15
Port Jefferson, L. I.	71	.98	.75
Asbury Park, N. J.	46	.94	.45

H. Lorenzen, General Superintendent of the Herman Furniture and Carpet Company, compares the rail and truck charges between Chicago and Milwaukee as follows:

The first-class freight rate is 37½ cents per hundred pounds. The express rate is 99 cents. Taking five tons of freight as a basis, it would cost \$37.50 to transport 10,000 pounds by railroad freight to Milwaukee, and \$99.00 by railroad express. To the railroad freight charge should be added the cost of hauling to and from freight depots at the termini. If placed at \$10.00, this would bring the total cost up to \$47.50 for a one-way haul taking about six days. Since express is called for and delivered in large cities there would be no further charge and only one and one-half days are required to make delivery.

As for the motor truck, the distance from the Chicago Loop to the business center at Milwaukee by the Green Bay Road is ninety-eight miles. By the concrete road, rate of travel can be averaged at ten miles per hour, making the trip approximately ten hours. Cost of a five-ton truck for ten hours' work including wages of the chauffeur is about \$25 a day. When a helper is needed, another \$5.00 must be added per day. Quarters for men and truck will cost \$7.00 more. The total cost, therefore is \$37.00 for a one-way load. The return trip will cost \$30.00 with or without a load. With all proper arrangements, the round trip can be made in two and a half days. This makes the service faster than railway express and cheaper (provided return load is secured) than regular slow freight service when terminal charges are included.

As a final comparison, the figures in the following table, are presented as compiled and published by the National Automobile Chamber of Commerce.

Comparison of the Cost of Door-to-Door Delivery of First-Class
L. C. L. Freight from Various Points to New York City

	Distance Miles	Flat Freight Rate	Total Cost by Rail per 100 lbs. 1	Time by Freight hours	Truck Rate per 100 lbs. 2	Time by Truck hours 3
To N. Y. City from						
New Rochelle, N. Y...	17	42c.	\$1.03	24	\$0.25	3
Stamford, Conn.	34	48c.	1.10	24	.60	4½
Hartford, Conn.	109	59c.	1.23	48	.80	8½
New Haven, Conn.....	74	63c.	1.28	120	1.10	12
New London, Conn....	127	70c.	1.36	120	1.30	14
Springfield, Mass.	150	63c.	1.28	168	1.50	16
Providence, R. I.....	185	74c.	1.41	96	1.90	20
Gloucester, Mass.	201	85c.	1.54	168	2.00	21
Fall River, Mass.....	220	74c.	1.41	120	2.20	23
Boston, Mass.	233	74c.	1.41	96	2.40	25
Lowell, Mass.	259	79c.	1.46	168	2.60	27
Bridgeport, Conn.	57	56c.	1.20	48	.75	7

1—Total cost by rail per 100 lbs. equals freight rate plus teaming charges both ends (30 cents) plus cost of extra boxing (24c.), plus extra freight charge on increased weight of boxing (17 per cent of freight rate).

2—Trucking association figures (1920).

3—Loading and unloading time of 1 hour, plus running time at 10 miles per hour.

Figures by Francis W. Davis, Buffalo, N. Y.

In all cases the truck time in hours is below the railroad time. Aside from the matter of quicker delivery, transportation costs seem to be approximately the same for a distance of about one hundred miles.

Type of Hauling: Roads and legislation determine the distance and the speed of motor truck delivery, also the weight per unit. The type of product to be hauled will exercise a great influence in determining the relative spheres of the railroad and the motor truck.

There will be a certain type of goods which it will be advisable to carry further distances by motor truck because of:

1. The perishability of the product. This may be true in regard to many foodstuffs. It may also apply to the rapidly growing habit of transporting livestock directly to the stockyards by motor truck.

2. Immediate demand for the product. The greater rapidity of truck service will often appeal even to the extent of offsetting an increased rate.

3. Unavailability of rail service. This is often the case in agricultural districts.

There are certain products which it will be cheaper to haul by rail because of:

1. The low intrinsic value of the products, such as sand, rock, coal, etc.

2. The great weight of the product in proportion to its selling price.

3. Direct rail connections from shipper to destination.

That is, there will be a "twilight zone" for the motor truck, determined mainly by the shipper's desire for speed and convenience. The perishable and valuable products will go by truck.

How the railroad and the motor truck can be co-ordinated to the best advantage has caused and is causing

much thought to transportation experts. One great advance is in the form of the railway container car placed in service by the New York Central and Hudson River Railroad. Briefly the salient points about this car are as follows:

1. The express car carries nine container units. The cars are fitted with bulkheads and steel sides, standing two feet high into which the containers fit with a half-inch clearance on each side. There are sectional guides made of one-quarter inch steel shoes on the sides of the containers fitting into the guides, in this way holding the containers without blocking or further fastening. At any point in the journey a container may be removed and the car continue on with the rest.

2. With an ordinary crane the nine containers can be transferred from the car to motor trucks in twenty-one minutes. The car can be fitted again and be put back in service in about forty minutes. When it is considered that the ordinary railway car spends the greater part of its life waiting to be unloaded or loaded, a victim of terminal congestion, the benefit of this system is evident.

3. The tare weight of the containers is in the neighborhood of 2,900 pounds, with a capacity of 2,500. A standard three-ton truck can handle one container.

4. This system of sealed containers removes the danger of theft, or at least materially reduces it. It is claimed that 40 per cent of all freight shipped by rail or express is tampered with en route.

5. Packing and crating become unnecessary.

Even although the container itself is held up for loading or unloading, the freight car can be on its way. Thus, instead of spending the majority of its life on a siding, it can spend most of it on the road.

Of course, this container system has its disadvantages. It requires certain loading and unloading equipment which it would hardly be worth while to install in localities where there was not enough business to keep motor trucks busy delivering and calling for containers. It seems certain that some such system of tying up railroad and motor truck will be used in the near future.

Rubber Manufacturers Organize

AN organization known as the American Rubber Manufacturers, Inc., has just been formed, with T. R. Palmer, of the Continental Rubber Works, Erie, Pa., as president; C. E. Murray, of the Murray Rubber Company, Trenton, N. J., treasurer, and O. M. Mason, of the Mason Tire & Rubber Company, Kent, Ohio, secretary *pro tem*.

In discussing the plans of the new association, President Palmer said:

"It is to be our purpose to look after the interests and problems of the rubber manufacturers. We believe our interests will be dealt with more satisfactorily through an association composed exclusively of rubber manufacturers and not affected by outside interests.

"Our aims will be for the solution of problems that confront the rubber

manufacturer. We believe in liberal production and free movement of crude rubber, unhampered by legislation that creates an artificial price for the product. Rubber production and exportation must be regulated only by the natural law of supply and demand.

"We recognize our obligation to the consuming public. Their interests should always be ours, and our association should do all within its power to prevent any artificial regulation of rubber prices that are detrimental to the interests of the public.

"I thoroughly approve of the idea of America producing its own rubber, and it is possible that enough available acreage will eventually be obtainable under the American flag to supply American manufacturers with all the rubber needed.

(Continued on page 47.)

Ports Of The Nation--Houston

Placed by nature, fifty miles from the coast, the Texas city finds its own way to the sea and develops a port that commands recognition with a yearly tonnage of 3,365,635 valued at \$144,272,900

Written especially for AMERICAN INDUSTRIES

By BURT RULE

Publicity Director, Houston Chamber of Commerce

HOUSTON, Texas, is a city that fooled the geographers. Situated fifty miles from the coast line of the Gulf of Mexico, nevertheless, to-day ocean-going vessels ply between this former inland city and the principal ports of the world.

The underlying cause of Houston's transformation from comparative obscurity to worldwide fame has been the development of her deep waterway, which has literally brought the Gulf of Mexico to her door. The Houston Ship Channel is Houston's medium of commercial communication with ports of the world.

With a view to the systematic development and undisturbed control of the harbor, the City of Houston took advantage of an Act of the State Legislature of 1913 and extended its limits to include the channel down to its entrance into Galveston Bay, about fifty miles, and the territory along the channel extending on both sides 2,500 feet from the center of the waterway.

The city has not the power of taxation over this area, but possesses all police powers. The citizens of Harris County, of which Houston is the county seat, voted last year in favor of transferring jurisdiction of harbor affairs from the municipality to the

Harris County Navigation and Canal Commission.

The Houston Ship Channel occupies a natural waterbed which, before the creation of the channel, was known as Buffalo Bayou. From the turning basin at Houston to the open gulf the Houston Ship Channel traverses a distance of fifty-four miles. Dredging work is now almost completed, which will give the channel a ruling depth of 30 feet, and a bottom width of 150 feet. At this time, however, the channel will float the largest ocean-going vessels visiting ports of the Gulf section. The turning basin has a radius of 1,100 feet which is to be lengthened as part of the present dredging work, and at six points the channel has been widened to facilitate the passing of large vessels.

Tonnage passing over the municipal docks in 1922 showed an increase of 355 per cent over that for the year 1919 when first exports were made. In 1922 the port's tonnage was 3,365,635 with value of \$144,272,900. In 1919 the tonnage was 1,287,972 with a value of \$85,034,834. In considering the valuation figures for 1919 as a basis for comparison with other years it should be borne in mind that a considerable decrease in the price of com-

modities, comprising the principal items of tonnage of the port, took place during 1921 and 1922.

As the result of a special election held last December the citizens of Houston approved a bond issue of \$4,000,000 for additional port facilities. When these are obtained and the great dredging project on the channel is completed—begun ten years ago—the Port of Houston will be able to adequately take care of the constantly increasing port business that for more than three years has been clamoring for admission.

Just to demonstrate to the reader that the Port of Houston is already one of the great ports of the nation, even prior to the establishment of the improvements outlined above, here are a few official figures on the business of the port for 1921 and 1922:

The Port of Houston exported 771,894 bales of cotton during the calendar year of 1922 as compared with 45,341 bales for 1919. In 1921 the cotton exportation was 445,015 bales. In 1921 the value of exports was \$48,827,043 compared with the 1922 valuation of \$96,893,152. There was also an appreciable increase in import tonnage. Altogether there was during the twelve months an increase of 45 per cent over



General View of the Turning Basin, Showing Ten Ocean Going Vessels at the Municipal Wharves



Unloading Cargo of 40,000 Bags of Coffee

the preceding year in total freight handled over Houston docks.

It will be enlightening to many to learn of how widespread the exporting activity of the port has become. Cotton is now shipped direct from the turning basin of the ship channel at Houston to the ports of Liverpool, Hamburg, Bremen, Barcelona, Havre, Genoa, Manchester, Ghent, Antwerp, and Rotterdam.

Outbound cargoes from the Port of Houston consist of cotton, grain, lumber, refined oil, flour, cotton seed meal and cake, staves, naval stores, scrap iron, oil well supplies, farm implements, dairy products and other items originating in the Southwest.

Inbound cargoes largely consist of crude oil, coffee, bones, molasses, sugar, sisal and manufactured articles from the Eastern seaboard via coastwise lines for distribution throughout the territory served by the seventeen railroads which meet the sea at Houston.

The port is served with coastwise lines to Philadelphia, Pacific Coast points and New Orleans. A recent ruling of the Interstate Commerce Commission permits the entrance of the Morgan Line into the port with service to New York and other points on the Atlantic seaboard. Efforts are now being made to develop sufficient tonnage for this line to justify commencement of service in the very near future.

On lines to foreign ports regular sailings are made to the British Isles and the continent of Europe, West Indies, Mexico, South America and Australia.

The port has a line to Corpus Christi via the Intercoastal Canal and three of the largest refineries with plants on the Houston Ship Channel operate fleets of tankers from Mexico to their refineries and thence to all destinations with cargoes of the refined product.

Houston's terminal facilities consist of a series of municipally owned wharves, warehouses, rail trackage and handling devices. The port also has the service of oil and coal bunkering plants. All of these facilities with the exception of one large wharf and warehouse at Manchester in the center of the ship channel industrial district, are located at the Turning Basin which is within the corporate limits of the city.

A number of refineries and other large industrial plants on the ship channel have their own wharves and warehouse facilities and have made extensive waterfront improvements.

During the last two years the volume of business of the Port of Houston has been dependent only upon its facilities to take care of increasing shipping. New business which for some time has been clamoring for admission will be accommodated with the addition of these new facilities.

A railway belt line with about twenty miles of track serves most of the industries on the south side of the channel from the turning basin to a point about six miles down the channel. The line will be extended to Morgan's Point on the south side, involving about eighteen additional miles of construction. When this is done the belt railway will parallel the channel so as to serve all industries in the district, giving them deep water at their front door, while at their back door will be a direct rail connection with the seventeen railroads serving the City of Houston.

The Federal Government early recognized the value and importance of Houston's waterway, but no improvement work of any considerable magnitude was done in the interest of the channel until the citizens of Houston joined the Federal Government in sharing the cost of improvement work. A contract for extensive improvement, calling for a 25-foot channel, was let in 1912, and the work was completed in 1915.

On May 24, 1919, the citizens of Harris County voted a bond issue of one and a half million dollars as their share of the cost of further improvement authorized by the Government. This additional work cost approximate-



Coal and Bunkering Plant on the Houston Ship Canal

ly four million dollars, and the total cost of improvements up to July, 1920, was approximately eighteen and a half million dollars.

To further expedite the general handling of cargoes, the city authorized the building of oil bunkering facilities, which have direct connections by pipe lines with all municipal docks. Arrangements were also being made for the construction of a modern coal handling plant, where full cargo lots of coal from the seaboard are distrib-

uted by rail to the interior, as well as furnishing coal for ships.

In addition to its unusual natural advantages, the Port of Houston possesses three salient points of interest which should command the attention of shippers and manufacturers who are commercially interested in the great southwest territory of the United States. The first is that rail rates to and from Port Houston are in no case more and in many cases less than those which obtain at other Gulf ports,

and the ocean rate to all ocean destinations is the same as from competing ports in the Gulf districts. The second point of interest is that wharfage and handling charges on many commodities at the Port of Houston are considerably less than those at competitive ports. The third feature is the availability of desirable tracts of land adjacent to the tide water and rail facilities for industrial and manufacturing purposes, together with cheap and abundant fuel.

Memphis As A Production Center

Southern city takes its place among world leaders as largest manufacturer of cotton-seed products, high grade veneers, sweet feeds, knocked down automobile wheels, aspirin and in hardwoods

Written especially for AMERICAN INDUSTRIES

By H. S. PURSER

Membership Secretary, Memphis Chamber of Commerce

A GROWING city of 190,000 nestled on the banks of the Mississippi River has stepped forward to take first rank among world production centers in the following lines:

Largest manufacturer of cotton seed products.

Largest producer of high-grade veneers.

Largest output of knocked down automobile wheels.

Country's chief producer of aspirin.

Largest producing point of sweet feeds.

World's hardwood metropolis.

Memphis, Tennessee, author of these claims, shows a gain of 33 per cent in the value of its manufactured products during the last five years, the grand total now reaching \$117,717,829. This amount represents 24 per cent of the manufactures of the State of Tennessee and is an excellent forerunner of what may be expected from Memphis in the future.

Favored by geographical location and blessed with an abundance of raw materials at its doors, Memphis now has a total of 380 manufacturing establishments employing 32,500 wage-earners, one-third of these being skilled workmen. These plants represent a capital investment of \$67,107,494. Twenty-four factories turn out every year products valued at \$1,000,000 or more, while 81 have a total production running from \$100,000 to \$500,000.

The principal manufactures of the Tennessee city are cotton seed oil and cake, lumber and timber products, car-

riages and wagons, bread and bakery products, patent medicines and drug preparations, food preparations, flour and grist mill products, foundry and machine shop products, mattresses and spring beds, saddlery and harness, paints, automobile bodies and parts, bags, railway cars, cooperage, furniture, snuff and tobacco products, screens, coffins, agricultural implements, artificial limbs, awnings and tents, boxes and cartons, chemicals, clothing, fertilizers and dental goods.

Manufacturing in Memphis has flourished because of the accessibility of raw materials, a plentiful supply of American labor, and a network of railroads and rivers offering quick distribution throughout the territory.

In the center of the greatest hardwood timber area in this country, Memphis has twenty-eight lumber mills which produce annually 300,000,000 feet of lumber. The railroads offer transit arrangements whereby rough lumber may be shipped in for yardage, storage or to be finished and then shipped on to destination within a period of six months on a through rate from point of origin.

The hardwood products manufactured here include furniture, boxes, cooperage, veneers, automobile wheels and bodies, farm wagons, spokes, handles, shuttle blocks, boat oars, washboards, screen doors, railroad cars and hardwood flooring.

The largest plant in the world making knocked down automobile wheels is located in Memphis. Its daily out-

put is 1,600 wheels, valued at \$112,000. The company has its finishing plants elsewhere, but established the wheel-parts plant at Memphis to overcome the handicap of long hauls and high transportation costs on hickory logs.

Thirteen cotton seed oil mills crush an average of 200,000 tons of cotton seed a year. They manufacture oil, meal, cake, hulls and linters. Here again, raw material is plentiful, Memphis being in the heart of the cotton belt. Four companies are engaged in the refinishing of oil and the making of compound lard, cooking oils, soap stock and other by-products.

Demand for mixed feeds has opened up a new field for manufacture in the South, twelve companies being engaged in this line at Memphis. The manufacturers buy peas, corn, clover, soy beans and other feed crops in this territory and bring in black strap molasses by barge from Cuba. It is estimated that the annual output of mixed feed totals 350,000 tons valued at \$20,000,000.

Memphis is rated as the largest drug market in the South, producing 70 per cent of the aspirin consumed in the United States. Many of the best known brands of patent medicine are made in the Bluff City.

The largest plant south of Chicago for the manufacture of railroad and highway bridges and aqueducts, railroad turntables and structural materials for sugar factories, cotton seed storage houses and office buildings is located at Memphis. Its products are valued at \$2,000,000 a year.

Other large plants include a rolling mill, a waterworks equipment factory, a car foundry, a meat plant with an annual killing capacity of 300,000 head, the largest cracker factory south of the Ohio river, the largest cotton seed oil mill in the world, and a huge snuff factory.

The principal fuel is bituminous coal

which is brought in by rail and barge from the mines of Alabama, Kentucky, Tennessee and Illinois. Artificial gas, crude oil, and cord wood also are available in large quantities.

While the Memphis industries are more or less specialized the advantages of low freight rates and fine distribution facilities are resulting in diversifi-

cation. A movement is now under way to attract cotton mills and other users of the raw staple to Memphis, the largest inland cotton market in the world. There also is room for expansion in the furniture manufacturing line and in steel and iron products in view of the huge quantities of lumber and ore available in the territory.

Fighting A Fire Before It Starts

Scientific method of today goes way back of the installation of the precautionary devices and makes detailed study of the metal to be used to guard against defects from rust, corrosion, etc.

By HARRY CHASE BREARLEY*

IN spite of disheartening loss statistics, there can be no doubt that fire prevention does prevent in thousands of cases each day. On the other hand, the conditions of modern life and the vast inertia of human ignorance and carelessness involve hazards so widespread and continuous that the contest sometimes seems to be a losing one. Fire prevention prevents fires, but the time when it can really prevent fire, in its destructive sense, is still far distant. Therefore, civilization must long continue to devote much time and money to fighting the fires that are not prevented. This subject is a large factor in the work of Underwriters' Laboratories.

Fire fighting consists of two elements—detection and extinguishment, and both of them have led to a multiplicity of devices and appliances, some of them automatic and some associated with human operation. For convenience we may take up detection for first consideration.

Fire always announces itself in course of time by means of smoke, smell, sound, the sight of flames or the sensation of heat, but this may be at a time too late to prevent destruction. The art of fire detection is that it be discovered in its earliest stage when loss may still be prevented. To this end, there has been a wide development of fire-detection systems and here again the classification is two-fold; viz., those based on automatic signaling by the fire itself, through its effect on some mechanism; and those which are accessory to the work of a watchman or patrol, such as time-recording clocks, pull-boxes, etc. Both classes may be good or bad in design, well or poorly made, in order or out of order at the

time of need, as with most things mechanical, but both of them are charged with so serious a responsibility that possible failure must be guarded against in advance of the emergencies when such failure would be disastrous. It is the work of the Laboratories to determine, and thus to aid in correcting, all liability to failure.

In fighting fire, it first must be discovered. Therefore, automatic alarms in great variety have been devised on the principle of making fire tell on itself. This it never hesitates to do when the right conditions are provided.

Fire can thus be made a much better fire watchman than are the mere humans employed for that purpose. Indeed, human watchmen so frequently are inefficient that there has been much discussion in insurance circles of what is familiarly known as "the watchman evil." For example, a watchman smelled smoke one Saturday night, but failed to find where it came from and told the Sunday watchman that it was due to a banked boiler. The smoldering fire was permitted to burn all Saturday night and during Sunday and Sunday night as well. On Monday morning the attention of a passerby was attracted by smoke pouring from the windows. This passerby ignored the assurances of the watchman and called the fire department which succeeded in extinguishing a fire that was rapidly becoming serious.

In another case a night watchman was disturbed in his slumbers by the persistent ringing of a bell attached to the automatic fire-alarm system. There was a fire, and it was trying to tell itself, but the watchman was not able to draw the inference; on the contrary, he climbed on a chair and stopped the ringing by forcing the blade of his penknife alongside the clapper of the bell. Then he went quietly back to sleep. Two or three hours later he was

awakened by the dense smoke with which the room was filled and went down to the street for fresh air. There, wandering about, he found another watchman supposed to be on duty in an adjoining building, and this man offered to go back with him and seek an explanation of the strange phenomenon. Putting his hands on the wall, he found that the bricks were hot. "Perhaps," said he, "there is a fire!" On this possibility they turned in an alarm, but some \$50,000 worth of damage was done before the firemen could subdue the flames.

These are merely a few cases out of many indicating the fallibility of depending on human vigilance and the desirability that fire be made to summon outside assistance. For such reasons inventive ingenuity is always active in this field, and fire-alarm systems are under constant investigation by Underwriters' Laboratories. One type in wide use is operated by a valve attached to the automatic sprinkler system. As soon as a sprinkler head is opened by the fire the motion of the water causes an alarm to sound.

On the other hand, much of the work on alarm systems and devices is done by the electrical department, and the electrical circuits on some systems are remarkably complicated as, for example, in the case of those known as "non-interfering" by means of which several alarms may be sent in simultaneously from different points without interference at the central station.

Iron standpipes and hose connections are to be found in the hallways of most tall buildings. Their necessity is too obvious for comment, for imagine the awkwardness of having to carry hose up many flights of steps in fighting fires on upper floors. Whether these systems be of the "wet" type, in which water pressure is constantly maintained, or of the "dry" type, into

* (In "A Symbol of Safety" published by Doubleday, Page & Company.)

which water must be turned before fire streams are available, it is evident that the pipe itself must be good, that the hose stations attached to it on the various floors must be convenient and easy to operate and that these hose stations must be made as nearly "fool proof" as possible.

An ordinary investigator might think it sufficient merely to look things over and, perhaps, to give the system a trial operation in place. Not so with the Laboratories' engineers. They make micro-photographs of the iron or steel to learn of its structure; they test its strength and elasticity by means of powerful tension and compression machines; they carefully examine the inner surface because roughness means friction, and friction under some circumstances may cause the stream to fall short of the flames it is desired to extinguish. So, too, with the hose stations. Their various requirements must be investigated with great care in view of the fact that they are likely to be used by inexperienced people laboring under excitement—a point never to be overlooked in making tests.

"The manufacturer who to-day builds without provision for automatic sprinkler protection almost wilfully endangers not only his plant but the life of his employes," so says the Secretary of the National Fire Protection Association. Automatic sprinkler equipment is undoubtedly the greatest single device for reducing fire loss, and in thousands of buildings may be seen the familiar little sprinkler heads, quietly awaiting the time when heat from a fire may melt a small piece of fusible metal and allow water to gush forth in a drenching shower. It is estimated that 20,000,000 people are now under the daily protection of sprinklers and that during the past twenty-seven years this form of protection has successfully controlled 95.7 per cent of 26,888 recorded fires.

So highly is the sprinkler esteemed by insurance companies that they make large reductions in premium rates where it is employed, provided that it be of approved type. This qualification is important, for there are "sprinklers and sprinklers." Inventors have been especially busy in this field and hundreds of devices have been submitted to Underwriters' Laboratories for test, and tests they have received, tests so searching in regard to the many qualities required that the Laboratories' standard for sprinklers alone is a book of about thirty thousand words. These tests occur almost continuously and the visitor to the Laboratories is apt to find them in some stage of process. He may see the hydrostatic-pressure test,

during which a steadily increasing pressure searches out the weak points in the sprinkler, or the "water-hammer" test, whereby four thousand vigorous hydraulic blows are delivered, followed by investigation for leakage; or, he may see some of the "installation," "accuracy of release" or "excessive stress" tests. He may see sprinklers tested after having been subjected to chlorine or nitric acid fumes or coated with calcimine, as might easily be the case in actual use. He may see them struck with hammers or thrown on cement floors, under the specifications for "rough usage" tests. He may see them tested for distribution, in order to learn the exact area of floor or ceiling that they will cover with spray, or mechanically tested for strength, or he may see uniformity tests made upon 150 or more samples, and other efforts made to determine all of the points of possible weakness or inefficiency, which might spell life or death in a fire emergency. In view of this, it will hardly surprise him to learn that out of the hundreds of types submitted, only some fifteen heads have the final listing.

The qualities of the sprinklers, when once determined and rated, are made the subject of factory inspections, as with other lines, but the most remarkable feature of the Laboratories' work on sprinklers consists in taking heads for test from buildings throughout the country, where they have been in service for months or years, as the case may be. This service involves from four to five thousand samples each year and is performed without cost to the owners of the buildings. Reports are sent to the insured, to the interested inspection department and to the sprinkler companies concerned, however, it must be added that the name and address of the assured are deleted from the copies sent to the sprinkler companies. As a result of such tests the Laboratories makes definite recommendations to the owners of the buildings as to whether the heads should be retained or taken out.

In 1911, President Merrill, in speaking before the Fire Underwriters of the Pacific, said:

"We find (fire hose) manufacturers making a monstrous mystery of their wares, analysis proving them rotten or unfit for use and gossips busy with details of scandal about the reasons why inferior hose is delivered, when superior is supposed to be paid for from the public treasuries."

There is perhaps no single item of municipal supplies whose purchase has been associated with more irregularities than this vital factor in public

safety. It is a matter of common gossip that a well-known politician in one of our great cities was conceded the fire-hose graft as his own personal reward for political services, and similar conditions were to be met in many other cities. As a result, it is not astonishing that, times without number, length after length of defective fire-hose purchased with the good money of the taxpayers burst as soon as water had been turned into it. Under such circumstances, fires that might readily have been controlled have grown to large proportions and a ghastly list of human victims is chargeable to defective hose.

For example, on January 10, 1908, fire broke out in the Parker Building, on Fourth Avenue, New York City, and the firemen were hampered by the fact that forty-two different lengths of fire hose burst under the water pressure. This undoubtedly was one of the reasons why the fire caused heavy damage before it was brought under control; still worse, it was one of the reasons why three firemen lost their lives and fourteen others received serious injuries.

Sometimes similar conditions prevail in the equipment of private plants. A characteristic instance of this kind occurred several years ago in a Pennsylvania cement manufacturing plant, where a fire broke out in a bunker, presumably from a locomotive spark. The fire was quickly discovered and the plant's fire-squad coupled up the plant's expensive new hose and turned on the water, whereupon the hose burst in five or six places and the fire merely gained headway. The disgusted squad hurried to uncouple the hose and threw in another length, which immediately burst like its predecessor. Ultimately, the loss amounted to \$7,000 which was largely due to the failure of the hose.

In this case the plant management had "specified and paid for" hose inspected by Underwriters' Laboratories, but had neglected to "look for the label," and the dishonest dealer had substituted a worthless product.

Fortunately, such conditions are becoming less frequent to-day, a fact that is largely due to the widespread insistence on "Underwriters' fire hose," or labeled hose complying with the standards laid down by Underwriters' Laboratories.

The "monstrous mystery" referred to by Mr. Merrill has been dispelled by the clearness of the requirements for municipal fire hose. For instance, the first requirement is that the fifty-foot sections be stenciled in indelible letters and figures at least one inch high, with the trade name, the month and year of

(Continued on page 26.)

AMERICAN INDUSTRIES

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The Constitution Our Supreme Law

EMPLOYERS in the United States cannot afford to ignore, in any sense of the word, the agitation of the radicals and the immediate work they are setting out to do. Groups are now vigorously planning a campaign to be launched at the convening of the next Congress, to depose the Constitution of the United States as the supreme law of the land and vest its fundamental authority in Congress.

Writing in this issue of AMERICAN INDUSTRIES, Mr. Henry A. Williams, of Columbus, Ohio, points out very clearly the coming menace the nation will face by such revolutionary legislative measures. And persistently in line with this thought is the strong, sincere address made a fortnight ago by General James A. Harbord, who served his country with such distinction in the World War and who believes every citizen should serve his country in times of peace by defending the Constitution against the attacks of the destructive individuals who are attempting to bore from within.

Mr. Williams scores severely those who would substitute Congressional authority for Constitutional author-ity.

"Such a theory of government," he says, "would utterly destroy the system of checks and balances upon which our government was founded. It would destroy the division of the powers and function of government into three great departments which division, since the foundation of our country, has been one of the distinguishing characteristics of our form of government; and the supremacy of a written Constitution with limitation of legislative powers would be ended. The protection afforded our citizens in their lives, liberties and property against the paramount and arbitrary will of Congress would be destroyed. That which was declared to be the supreme law of the land today by one Congress might be repealed and nullified by a new Congress that would be assembling on the morrow."

General Harbord, in arguing the greater danger, strikes incidentally at civic indifference and apathy, saying:

"The apathetic and indifferent performance of the duties of citizenship, the lack of interest in candidates and elections, the curious inertia of stolidity in the presence of great public wrongs, the crime wave, the general lowering of moral standards, the slackening of self-control, the pow-wow, the palaver, the conference, the committee and the commission—any excuse for talking in company instead of toiling alone—all of these are indications of a condition in which the war has left us, a condition particularly favorable to political decay, particularly encouraging to the radical enemy of our free institutions.

"The government by delegation instead of by representation, in which noisy minorities play on the timidity of mediocre and incompetent politicians, the direct primary and the numerous phases of commission government unknown to our Constitution are closely allied to the dream of a Soviet republic and the dictatorship of the proletariat.

"The direct primary nullifies the constitutional division into executive, judicial and legislative departments by vesting such powers in the majority. It is an attempt at mass government by mob psychology. It is responsible for the formation of blocs and groups and for the blurring of

those lines of party government which hitherto have distinguished the Anglo-Saxon from the Latin and Oriental types of democracy.

"The parlor bolshevist, the half-baked student of political science, the theorist, drifted out of the main stream of life's effort and always in contact with the immature and the uninstructed; the hyphenate, the defective, the dullard and the degenerate, the senile and the juvenile, with a minority of clever but misguided men and women, furnish recruits to the forces that are boring from within, and while sheltered by our flag, are endeavoring to overthrow our Government.

"A democracy," he says, "which continually enacts laws inconsistent with its fundamentals must automatically go out of being. For generations our statesmen have known, or should have known, that there are certain things a democracy cannot do and survive. Chief Justice Marshall and other eminent jurists expounded the Constitution and marked the boundaries beyond which legislation cannot go without peril. Yet there have been few sessions of our national legislature in which the professional office holding caste has not passed bill after bill in opposition to the principles to which it is committed."

A Museum of Industry

THE transition of America from an agricultural country to the leading industrial nation of the world will be vividly illustrated in the Engineering Societies Building this fall and winter by a comprehensive exhibit of records, models, charts, drawings and correlated material.

While the primary object is to interest various engineering societies that will hold their meetings there during the winter, the display will be open to the public and should have a strong educational appeal. The work is in charge of a joint committee created by the coöperation of various national engineering societies for the purpose of establishing, in connection with the Smithsonian Institution, a National Museum of Engineering and Industry

which shall register accurately the march of applied science in American industry.

The societies putting forth this effort are the American Institute of Electrical Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Civil Engineers and the American Society of Mechanical Engineers. The task upon which they have embarked is one that will require both time and money, but it is eminently worth while to preserve for future generations the machines and processes that mark, step by step, the swift evolution of productive methods. The local display is the beginning of a great institution that in time will become a focal point of interest for American youth.

Panama Canal Traffic Tripled

PANAMA CANAL traffic has increased from 4,000,000 tons in 1915 to more than 11,000,000 last year, and will almost certainly exceed 13,000,000 tons in 1923. J. J. Morrow, Governor of the Panama Canal, told a gathering of the New York section American Society of Civil Engineers. He said:

"The lockage capacity is 50,000,000 net tons of shipping per annum, and it is estimated that the traffic will not reach this volume until 1955. When it does, more locks can be added, which can be paid for out of the profits.

"In January, 1921, in two days' time there were passed from ocean to ocean forty-three vessels, some of them battleships of heaviest draft and beam. This shows what can be done in an emergency with the normal operating force, designed for an average of about eight vessels per day. Since then traffic has grown to an average of ten ships a day, each of the last three months having established successively new records for transits and for tolls.

"Expenses for operation, maintenance and the manifold tasks of governmental administration call for just about half as much money as is being turned into the United States Treasury. The canal is almost paying even interest on the business investment and amortization on the same."

What Women Think Of The Open Shop

(The following statement was received too late to be included in the Symposium on the Open Shop, published in our May issue.)

Written especially for AMERICAN INDUSTRIES

By MRS. NINA S. GOULD

President, The Town Club, Oklahoma City, Okla.

I am a believer in the saying of Sir Harry Lauder to the effect that, "No man ever achieved distinction who limited his hours of labor."

To this I would add that I believe no man or woman ever rises above the common level who attempts to limit the amount of output.

I cannot see any logical reason why any group of men should dictate to me just whom I shall employ, how many hours they shall work, and what sort of work they shall do. It does not seem democratic.

Automobile Bridge For The Hudson

MANUFACTURERS, in particular cases and touring automobilists in general, within a radius of two hundred miles of New York, will be encouraged by the news that the Hudson River is to be bridged just north of Peekskill, the western end of the structure lying at the entrance to Bear Mountain Park. This will mean the elimination of several hours in numerous truck shipments, and will be a great convenience to touring automobilists who start out from New York, enter it or who drive through it on their way to the summer resorts along the Atlantic Coast. The great river has no highway bridge south of Albany and for years the motorist has had to get along services that were never designed to handle such volumes of traffic as have come with the automobile.

On Saturdays and Sundays, every ferry entering or leaving New York is so congested that it frequently necessitates a wait of two or three hours before a crossing can be made. Many motorists have shunned coming to New York, leaving it or trying to pass through it on those days because of the

interminable delays that are bound to be met either on the outward trip or on the homeward journey. Vacationists bound from the city to the Catskills, Sullivan County, the Delaware Water Gap or the western part of the Adirondacks will find the bridge a great help; so will the football crowds that motor to West Point; the touring parties going from the west to the Berkshires and other New England points.

The New York-New Jersey vehicular tunnel will be the greatest help—when it is finished; but that point is a long way off yet. The new bridge gives promise of fairly quick building, as it is to be a private enterprise, has received the necessary approval at Washington and Albany, and the financing of the \$6,000,000 necessary has already been arranged.

Facts and a Public Duty

THOSE who manage business are trustees for the beneficial use of the forces of production under their control. They must organize these forces to secure justice to the workers and, most important of all, economy and justice to the general public. And it is as a public duty, on the part of employers, therefore, that the open shop must be considered.

The United States Bureau of Labor Statistics has just issued figures which show prices by groups of commodities. It is no mere coincidence that prices of clothing, fuel, and building materials are the highest. All of these are, directly or indirectly, predominantly under union control and this control always increases the costs of production which the consumer ultimately pays. Commodities as a whole average 56 per cent above the level of 1913. Building materials average 85 per cent above 1913. The clothing industry is largely controlled by the Amalgamated Clothing Workers and prices are 92 per cent above the 1913 mark. President Harding said that this country is at the mercy of the United Mine Workers for its fuel supplies; fuel is 118 per cent higher than in 1913.

Prices which are highest above 1913 are in industries controlled by the closed shop.

(Continued from page 23.)

manufacture, and the words "tested to 400 pounds"; the Laboratories' label must also be firmly attached near an end. It serves more than one purpose, as a crooked jobber found out to his deserved sorrow when he tried to pass off as new a lot of old hose on which the stenciled dates had been altered. The prospective customer became suspicious and notified the Laboratories' local office, where he was informed that the labels had been affixed to a War Department supply some years earlier.

Fire hose is such an important product that it comes under the "100 per cent inspection" system of the Laboratories; that is to say, every section of hose sold with the Laboratories' label attached to it has been inspected and tested individually at the factories by the Laboratories' inspectors. Each length of hose, before being labeled, must withstand a pressure of 400 pounds per square inch, without leaking, sweating, breaking cover threads, shortening, rising from the level of the test table or warping more than twenty inches, nor may it twist excessively under the strain, and, if it does twist, it must do so in a direction to tighten the coupling. One full length out of every ten must be tested while kinked and it is required that its cover threads shall resist a pressure up to 300 pounds per square inch. From every lot of sixty sections, one is selected and a three-foot sample is subjected to hydraulic pressure that is steadily increased until the hose is forced to burst, a point which may not occur below 600 pounds to the square inch. Finally, the manufacturers must guarantee to the municipality that the hose is made according to the best principles of hose construction, that it is free from defects of material and workmanship and that if, at any time within three years, the rubber parts of any section burst or show cracks or harden, because of defects such hose shall be replaced with new hose at a cost equal to such per cent of the original cost as the time elapsed is of three years.

Preceding such factory inspection, however, and from time to time thereafter, thoroughgoing tests of test samples are made at the Laboratories itself, and these are in the hands of the chemistry department, since they concern themselves chiefly with the character of the rubber and cotton employed. This is because the rapid deterioration to which some hose is subject is largely due to inferior quality in its materials.

It is fortunate for humanity that water, the most reliable of all fire extinguishers, should be so plentiful in

a world of hazard. The water supply is the most important part of the fire-fighting system of every community, and its pipes, valves and fittings come in for extensive tests at Underwriters' Laboratories. This is why the institution contains an elaborate hydraulic laboratory.

Back of the work of the firemen, sprinklers and standpipes there must be the means by which they are supplied with water, these involve pumps, hydrants, valves and, in some cases, complicated supervisory systems, all of which keep the Laboratories' hydraulic engineers busy throughout the year. Offhand, one would think that any valve could be examined and tested in a few hours, but alarm valves require each about four weeks of steady work by the engineers, and dry-pipe valves

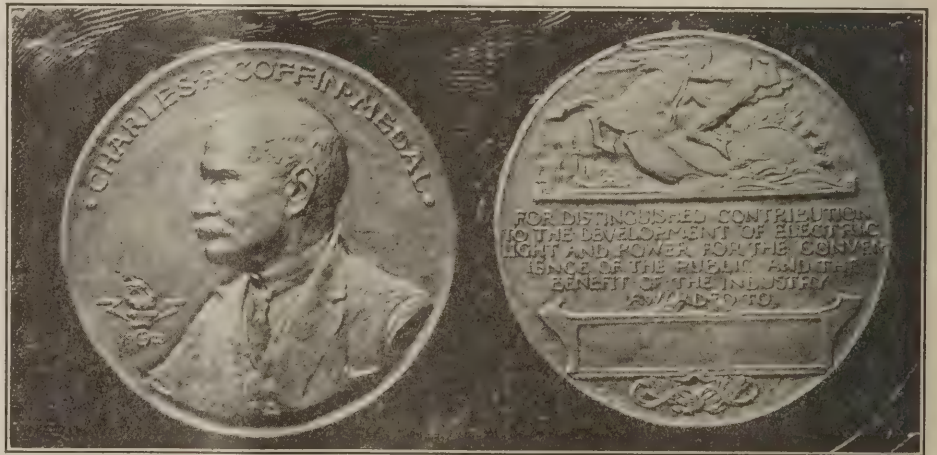
likewise present many problems for consideration before the Laboratories can render an opinion. The ideal alarm valve must cause a gong to ring or a signal to flash, or both, but it must ignore false alarms. This problem, by the way, has never fully been solved, though in some cases Laboratories' engineers have, at manufacturers' requests, devoted months to development work on this device. As to dry-pipe valves, they are used in premises that may become cold enough for the water to freeze in the fire-fighting system. This invention is quite as remarkable in its way as is the alarm valve. It must hold back the water until a sprinkler opens, when it must immediately open, so that as few precious seconds as possible will be lost while the water rushes to the point of fire.

Public Utility Wins Medal

THE Southern California Edison Company, Los Angeles, was presented on June 7 with the gold medal of the Charles A. Coffin Foundation, offered for the first time last year, to the electric public utility company of the United States which made the most notable contribution during the year to the development of electric light and power service. This is the first award of the medal to be made by

tion in New York. Frank W. Smith, of New York, president of the Association and chairman of the association's Charles A. Coffin prize committee, officially presented the medal, which was accepted by President John B. Miller of the California company.

The medal was modeled by Chester Beach of New York, a well known medalist. The obverse side shows a bust of Charles A. Coffin, with the



The Charles A. Coffin Medal

the Foundation, which was created by the General Electric Company. The recipient was selected from eighteen electric light and power companies which submitted their year's records for consideration, and the decision is understood to have been extremely close.

The presentation was made during the meeting of the Public Policy Committee of the National Electric Light Association holding its annual conven-

words "Charles A. Coffin Medal." On the reverse side the artist has shown man controlling the forces of Nature—water and heat—and driving them, in the form of electricity, over land and sea. Beneath this appears the inscription: "For distinguished contribution to the development of electric light and power for the convenience of the public and the benefit of the industry." In a

(Continued on page 41.)

The Indian As A Lumber Baron

Some of the largest timber sales ever made by the United States Government, and at the highest prices, have been from Indian reservations in the last twelve years—many for 1,000,000 feet

Written especially for AMERICAN INDUSTRIES

By EDGAR P. ALLEN

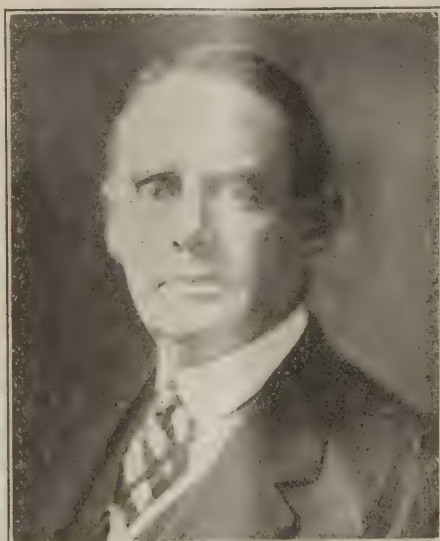
National Lumber Manufacturers Association

SUPPOSE the State of Vermont had an endowment of \$1,000,000,000 invested in natural resources—agricultural lands, mineral lands, such as oil, phosphate, coal, forest and water power. Would it not be considered a very fortunate community?

The total Indian population of the United States is about the same as the population of Vermont, and the Indians have, at present-day valuations, approximately a billion dollars worth of natural resources. Although at present the wealth in petroleum and natural gas attracts the most attention, because of the great interest in oil supplies and because of the immense royalties now being received from oil leases which are enriching individual Indians and piling up large funds to the credit of tribal accounts, it is probable that the greatest potential wealth of the Indians is in their agricultural and forest lands. Aside from brush lands the Indians own, in their scattered reservations throughout the West, not less than 7,000,000 acres of commercial forests. That is to say, their forest lands are equivalent to an area larger than the combined areas of Massachusetts and Connecticut.

As the United States has long since passed the point where timber reproduction exceeded consumption and destruction, all accessible standing timber tends to increase in value, and under the system of perpetual forest management which the Indian Bureau of the Department of the Interior has adopted, it is expected that the present stand of timber will be as great, if not more, fifty years hence as now, with its value many times as great. The quantity of merchantable timber standing on Indian lands is estimated now at 35,000,000,000 feet, worth at present prices about \$100,000,000, or roughly, \$300 for every Indian man, woman and child in the country. Some idea of what this timber may be worth a generation hence may be gathered from the fact that good timber in the northern and eastern sections of the United States is worth anywhere from \$5.00 to \$25.00 a thousand feet. Assuming that twenty-five years from now the stumpage value of the Indian timber will be \$10.00 a thousand—and

some of their timber has already sold for more than that, it will be worth not less than \$300,000,000; and this of the sort of wealth which, if properly pro-



Hon. C. H. Burke, U. S. Commissioner of Indian Affairs, Department of the Interior

tected, perpetuates itself while yielding dividends declared by nature.

If there had been a prudent and business-like administration of the Indian forests during the last fifty years, their present stand of timber would be much larger and the receipts from its sales in proportion. It was not until about twenty-five years ago that there was any general authority for the sale of Indian timber other than that derived from the natural right of the Indians to sustain themselves by the use of the resources of their reservations. Neither was there any system of caring for, conserving and protecting the forest lands. During the last quarter of the nineteenth century, hundreds of millions of feet of timber were moved from reservations in Wisconsin and Minnesota without adequate protection of the interests of the Indian, whether in the matter of sales or in the preservation of their forest properties.

In 1889 Congress authorized the sale of "dead and down" timber, and another act in 1897 especially authorized the sale of such timber on the lands of the Chippewa Indians in Minnesota. These acts were really

destructive rather than constructive, as they operated to encourage deliberate injury of the timber by fire in order to make it "dead and down," and also encouraged surreptitious cutting.

It was not until 1909 that Congress gave authority for the development within the Indian service of the regular organization for the efficient administration of Indian timber lands. At that time \$100,000 was appropriated for forestry work on the reservations. Since 1909 the forestry branch of the Indian service has been building up an efficient system of administering timber lands in accordance with the basic principles of the science of forestry; that is, with the general policy of maintaining the forests as a perpetual source of timber. In 1910 Congress authorized the sale of mature green timber, and it is now the practice of the Forestry Branch to dispose of such timber at public sales from time to time, but always under restrictions so far as tribal lands are concerned, if they are not adaptable to agriculture, that encourages regrowth.

It is a pathetic fact that, as has been so often the case in the history of Indian relations, that the new era of administration of their timber did not come until after a tragedy costly of human life. While it was not strictly an Indian war, but rather an industrial conflict in which the participants on one side happened to be Indians, it is a fact that the last battle of any consequence between soldiers and Indians occurred in Minnesota in 1898, when the Leech Lake Chippewas took up arms to defend their forests against the inroads of the "dead and down" contracts. They maintained that the contractors were singularly unable to find anything in their woods that was not "dead and down." It cost the lives of eight soldiers of the Third regular regiment, and the wounding of about twenty-five others—not an Indian being scathed—for the Indians to impress on the government that they were right on the job of looking after their timber.

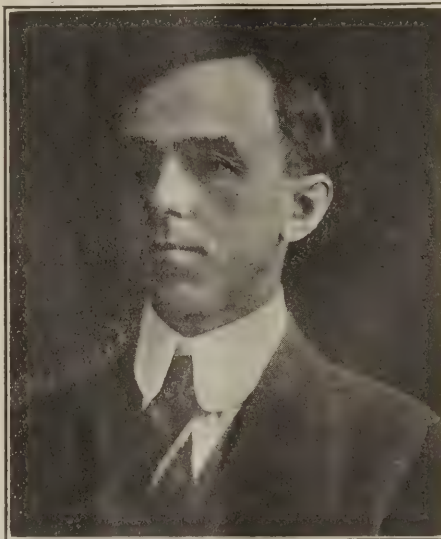
The Indian reservation forestry problem is not exactly the same as

that of the national forests, which are under an entirely different administration in the Department of Agriculture; for the Indian forests are private property of the Indians, held in trust for them by the United States Government. So, even the tribal forests must be administered with a view to the present economic needs of their owners as well as to future values. Moreover, many of the Indians own their lands individually, and in such cases, the timber is held for them from about the same point of view as the individual white settler would take. If the land is adaptable to agriculture, the cutting is clean and without a view to reforestation. On the other hand, in the case of the tribal forests, the policy is to reconcile the obtaining of the largest amount of immediate revenue with assurance of the maintenance of the long time value of the property. As much of the tribal timber is sold from time to time as the market permits, and as will not destroy the permanent value of the forests as a whole. When mature trees are cut, a provision is made for protecting young trees from injury during logging operations, and for the cleaning up and burning of the debris of logging. The timber is disposed of to contractors through competitive bids, the contractor removing the timber himself under the supervision of and according to the regulations of the Indian Forest Service. This service now includes a chief forester, or chief supervisor of forests, J. P. Kinney, whose headquarters are in Washington; with a staff of ten forest school graduates and practical lumbermen and about fifteen technically trained men on the various reservations, assisted by 125 scalers, rangers and guards. Mr. Kinney is a graduate of the Forestry School of Cornell University, the first forestry school in America, and has been in the Indian service for more than ten years.

It is the boast of the Indian Forest Service that its regulations governing logging operations, promulgated in 1920, represent as advance a state as has yet been made in American forestry practice anywhere. While insisting upon the observance of all restrictions necessary to management on forestry principles, it has sought to eliminate every restriction that seemed to impose upon the purchaser of timber, a burden that was out of proportion to any advantage accruing to the owner—that is the Indians—or to the public. In proof of the wisdom of this course, attention is directed to the exceptional interest that lumbermen and loggers have shown in offerings of Indian timber and in the record prices that have been received for it in recent years.

An illustration of the public or what

might be called the white man's interest in the Indian forests, is found in general regulations No. 10, which provides that in the discretion of the officer of the Indian Forest Service, in charge, "a strip not exceeding 300 feet in width on each side of streams, roads and trails and in the vicinity of



J. P. Kinney, Chief Forester, Indian Service

camping places and recreation grounds, may be reserved, in which little or no cutting will be allowed." This provision assures the maintenance of scenic values on the Indian reservations.

Notwithstanding forestry regulations, some of the largest timber sales ever made by the United States Government and at the highest prices have been made of Indian reservation timber in the last ten or twelve years. Five sales have amounted to approximately 500,000,000 feet each and a dozen others have exceeded 100,000,000 feet each. Large units of yellow pine have been sold on the Klamath reservation at \$5.50 per thousand feet, and on the Flathead reservation in Montana at \$6.50 a thousand. White and Norway pine of inferior quality on the Nett Lake reservation in Minnesota have sold at \$16 and \$13.65 respectively, and in a recent sale of nearly half a billion feet on the Quinaielt reservation in Washington, western hemlock brought the unprecedented price of \$3.00, and cedar, spruce, Douglas fir and other species were sold at \$5 a thousand. The timber on three units of this reservation sold during 1922 totaled more than 1,000,000,000 feet. From the Klamath reservation alone more than 100,000,000 feet are being cut each year.

The latest sale of Indian timber was that on February 15, of the Valley Creek unit in the Flathead reservation in Montana to the Heron Lumber Company, 130,000,000 feet, at \$5.12 a thousand for the Western Yellow Pine

and \$3.01 for the other timber. A sale of 482,000,000 feet of western yellow and sugar (white) pine and 44,000,000 ft. of Douglas fir in the Metolius unit of the Warm Springs, Oregon reservation, was made in January last at \$2.88 for yellow pine at \$1.30 for Douglas fir. All stumpage prices quoted here are initial, as the Indian Forest Service contracts provide for readjustment of prices at regular intervals during the life of the contract, so that poor Lo gets all the traffic will bear, as lumber gets costlier.

During the past decade the value of timber removed from lands under the jurisdiction of the Indian Service has exceeded \$1,500,000 annually, and this income will presently exceed \$2,000,000. The cost to the Indians of the commercial and forestry administration of their lands, including the protection of the timber from fire, insect infestation and trespass, has been less than \$150,000 annually.

The Indian Forest Service is very proud of the fact that more than ninety per cent of the gross income from the Indian forest has been placed to the credit of individual Indians or tribes for use in their support or industrial advancement. This record of achievement and economy, it is asserted, has never been excelled by any governmental agency in handling forest lands.

A striking illustration of the economic salvation prudent administration of their forests has meant to the Indians in many cases, is found in the Jicarilla, Apache reservation in New Mexico. In 1910 the Jicarillas, exceedingly poor, broken by disease and wretched beyond belief, were apparently nearing extinction. By means of funds realized from sales of their timber they have been rehabilitated morally and physically and are now far on the road to industrial independence.

As a rule the Indian Forest Service contents itself with disposing of the Indian timber to contractors who make such disposition of it as they wish. But in the case of the Menominee reservation in Wisconsin the Indian Service took control of a large sawmill in 1910, and approximately 20,000,000 feet of lumber and other timber products have been manufactured there annually. The net proceeds from this logging and milling operation during twelve years have been approximately \$2,000,000. The mill, logging railroad and logging equipment are valued at more than \$1,000,000. The proceeds belong to 1,200 Indians. From 1894 to 1921, the J. S. Stearns Lumber Company paid the 1,100 Bad River (Wisconsin) Chippewas, \$7,000,000 for 1,268,000,000 feet of timber.

At the time this article was written,

the Indian Forest Service was inviting bids for 900,000,000 feet of western pine, cedar, spruce, hemlock, Douglas fir and western white pine, the sales units being on reservations in Washington, Oregon, Idaho and Montana. The minimum price stipulated was \$3.50 a thousand for the pine and seventy-five cents a thousand for the cheapest species. At the end of each three year period of the purchase contract, the price advances twelve per cent over the price paid during that period.

In announcing this offering, the Indian Forest Service, which prides itself on forestry management that is based on sound business principles and appeals to lumber men and business men, says:

"We have provided for definite increases in the stumpage prices in

timber owners, or make lumbering operation on Indian reservations a burden.

"As a result of these satisfactory conditions and provisions big lumber manufacturing concerns have purchased and are continuing to purchase large units of timber on Indian reservations, at unusually high prices. For example, white pine on the Nett Lake Indian Reservations in Minnesota was sold at \$16.00 per thousand feet and Norway at \$13.65. On February 15, 1923, a tract of 130,000,000 feet of timber on the Flathead Reservation in Montana was sold at \$5.12 per thousand for western yellow pine and \$3.01 for other species. More than 1,000,000,000 feet of timber was sold in 1922 on the Quinalt Indian Reservation in Washington. On the largest unit hemlock brought \$3.00 per thou-

irrigation and farm crop production.

The surveys are also very important in protecting the forest from fire. On all the reservations containing timber of any importance telephone lines have been constructed from central headquarters to various strategic points such as ranger cabins in the mountains and the fire lookouts. The latter are located on high mountain points, which afford a panoramic view of the timber below. Men are stationed in these lookouts throughout the fire season, constantly scanning the forests with binoculars. If such an observer discovers a fire he immediately determines its location with an instrument known as a fire-finder and promptly telephones the information to the forester in charge, who immediately dispatches a crew with tools and supplies to fight the fire. The Indian



Logging with Big Wheels on the Klamath Indian Reservation, Oregon

contracts for sale of timber in the pine regions. This form of contract permits a purchaser to know the stumpage prices he will have to pay during the entire life of his contract, and to advise his bankers or associates definitely as to the responsibility that he will assume in purchasing a body of timber. It also operates to protect the interests of the Indian. While the Indian Service timber contracts and regulations provide for cutting timber in accordance with scientific principles of forestry, on the principle of continuous lumbering and preservation of the forests as a whole, they do not contain needless and unreasonable clauses that are objectionable to

sand, the highest price ever obtained for this species, and Douglas fir, spruce and cedar sold for \$5.00 per thousand."

The regulations make it imperative for loggers in the Indian forests to employ Indians preferably wherever they are available and fitted for the work. Many hundred Indians thus have lucrative employment by themselves, so to speak.

Extensive valuation surveys have been made on a number of reservations and the work is going ahead as fast as funds become available. These surveys, besides furnishing data for a topographic map, give the amount, kind and quality of timber, the soil classification and its adaptability to

Service coöperates with the Forest Service (National Forests) of the Department of Agriculture and other agencies in fire detection and suppression. This, with a systematic patrol of experienced rangers and guards, affords insurance against heavy losses from fire. The average cost of this insurance has never exceeded half a cent an acre.

The proceeds from the administration of the Indian forests in the last twenty-five years have amounted to about \$25,000,000 and it is likely that the Indian forests will bring in around \$2,000,000 a year for the next twenty years, and a smaller amount indefinitely.

Bits of News

About

Men in Industry

The Copper and Brass Research Association has just added to its membership the Engels Copper Mining Co., Gransby Consolidated Mining, Smelting & Power Co., Dallas Brass & Copper Co., Merchants & Evans Co., T. E. Conklin Brass & Copper Co., J. M. and L. A. Osborn Co., and Richards & Co., Ltd., the present membership of the Association being comprised of 26 copper mining companies and 15 copper and brass fabricating and distributing companies.

Definite information has just been received here by the American Association of the formation in England of a similar organization, the Copper and Brass Extended Uses Council, comprising manufacturers of copper and brass sheet, tube, wire, etc., with headquarters in Birmingham. The English association states that it is about to collect facts and figures with which to inform the public regarding the advantages of copper and brass for various purposes for which at present other metals or materials are being used.

"It has been felt amongst the members of these trades," says a communication just received from the Extended Uses Council, "that not only were copper and brass being overlooked for many purposes for which they are suited and advantageous, but that, in the last few years, they have been displaced for many purposes by other metals on the score of cheaper first cost. It has been thought therefore desirable to investigate the purposes for which copper and brass can be used to advantage with a view to getting scientific facts which can be used in informing the public."

E. O. Robinson, of the Mowbray & Robinson Company, Cincinnati, pioneer lumberman, prominent in the Hardwood Manufacturers' Institute since its organization, and an outstanding character in the earlier hardwood manufacturers' associations, has made a magnificent gift in the interests of Kentucky's economic development. A gift of land constitutes some sixteen thousand acres located in Breathitt, Perry and Knott Counties of Kentucky and is made in the name of the Mowbray & Robinson Company, while

a gift of a million dollars is made by Mr. Robinson personally.

The E. O. Robinson Mountain Fund is the trusteeship just incorporated with E. C. O'Rear, President of the Board of Trustees. This organization will administer the project, which includes a far-reaching educational development along agricultural and industrial lines. Mr. Robinson has further arranged to defray expenses incident to the development of the land in reforestation and likewise for agricultural purposes, it being expected that this will amount to probably twenty odd thousand dollars a year.

The Texas State Manufacturers' Association elected the following officers and directors at a recent meeting:

President: J. C. Saunders, Bonham. Mr. Saunderson has long been identified with the manufacturing interests of the State, he is President of the Guadalupe Valley Cotton Mills, Cuero, also President of the Gonzales Cotton Mills, and Manager of the Consolidated Textile Corporation of Bonham.

Vice-Presidents: A. T. Clifton, Waco, Clifton Manufacturing Co. E. A. DuBose, San Antonio, San Antonio Cotton Mills.

Vice-President and General Manager: G. M. Knebel, San Antonio.

Directors: L. J. Black, Beaumont, Beaumont Iron Works; J. Perry Burrus, McKinney, Texas Cotton Mill Co.; Jules Dreyfus, Eagle Lake, Interstate Rice Milling Co.; H. W. Finck, San Antonio, Finck Cigar Factory; G. G. Geyer, San Antonio, Gebhardt Chili Powder Co.; Ralph C. Goeth, Austin, Tips Foundry & Machine Co.; J. E. Haviland, Galveston, Texas Star Flour Mills; Walter Hogg, Dallas, Dallas Cotton Mills; S. S. Lard, Fort Worth, Mistletoe Creameries of Texas; J. W. Link, Houston, Kirby Lumber Company; P. H. Manire, Marshall, Marshall Cotton Oil Co.; I. M. McIlhenny, San Antonio, Maverick-Clarke Litho Co.; W. B. Munson, Jr., Denison, Denison Cotton Mills; Eug. Nolte, Seguin, Seguin Milling & Power Co.; I. A. Ogden, New Braunfels, H. Dittlinger Roller Mills Co.; Clinton Phelps, Sherman, Sherman Manufacturing Co.; Phillip Welhausen, Yoakum, Texas Hide & Leather Co.

Four General Electric Company officials have just been given honorary degrees at four important American Universities.

Gerard Swope, President of the Company was awarded the honorary degree of Doctor of Science at Rutgers College on June 12. Owen D. Young, Chairman of the Board of Directors, was given the degree of

Doctor of Literature at St. Lawrence University, of which he is an alumnus, on June 12, while Dr. Irving Langmuir, Assistant Director of the Research Laboratory received the honorary degree of Doctor of Science from Union College, Schenectady. David B. Rushmore, Consulting Engineer, was given the D.S. degree from his alma mater, Swarthmore College.

All of these men have been intensely interested in furthering scientific education in our colleges and schools and have taken a leading part in the forward looking movement of co-operation between colleges and industry.

Dr. W. R. Whitney, director of the Research Laboratory of the General Electric Company, was recently elected a member of the corporation of the Massachusetts Institute of Technology for a term of five years. He was graduated from M. I. T. in 1890 and has for some time been a non-resident professor of theoretical chemistry at the institution. Walter Humphreys, '97, of Brookline, and Charles R. Maine, '09, a prominent consulting engineer of Boston were also elected to the corporation, these three succeeding Paul W. Lichfield, Arthur D. Little and Eben S. Stevens.

F. H. Worthington, associated with the Jacksonville, (Fla.), office of the General Electric Company, has been appointed local manager of the Jacksonville office to succeed G. C. Henry who recently resigned. The appointment was announced by E. H. Ginn, district manager, Atlanta, and is effective July 1st.

Edward P. Farley, the new chairman of the United States Shipping Board, has just entered upon the duties of his office, succeeding Albert D. Lasker, who has completed a two-year term. Mr. Farley is not a stranger to the shipping business nor to the affairs of the board, in that he has been identified in an executive capacity with several of the leading shipping operations of the Great Lakes, and in addition has previously served the board in the capacity of a vice-president of the Emergency Fleet Corporation.

The Liptak Fire-Brick Arch Co. of Chicago, manufacturers of Liptak Double Suspension Arches and the Liptak Interlocking Fire Brick Wall, has just recently secured the services of Mr. C. R. Matheny, who will act as District Manager, with offices at 50 Church St., New York City. Mr. Matheny was formerly General Manager of the Republic Flow Meters Company of Chicago.

Building An Industrial City

Great lumber company constructs a great plant in Washington, with homes, civic center, fine school, stores and bank, at a point where railway, waterway and motor highway naturally converge

FIFTY miles inland from the Pacific Ocean, on the Washington bank of the Columbia River, a city-building project is in full sway that is probably without parallel.

A new city is being built. It is the city of Longview, Washington. Land that last summer and for many other summers was used for dairying and agricultural purposes has been transformed in the last eight months. There, where orchards bloomed and cattle grazed, miles of streets have been graded and are being paved; upwards of three hundred modern residences have been built; a 200-room fire-proof hotel will be opened in July; two bank buildings, several office and store buildings, several apartments, and a school and a community house are under construction.

An immense power plant, and the first manufacturing unit of what is designed to be one of the world's largest lumber manufacturing operations, are under construction. Work soon will begin on large docks equipped to handle cargo with the great ocean-going freight vessels that steam up the Columbia from all ports of the world.

Back of it all is a story of American business foresight and enterprise, of a city conceived and planned by business men and city planners.

A few years ago, The Long-Bell Lumber Company, which for almost fifty years has been engaged in the lumber business in the South and

Middle West, decided to extend its interests to the Douglas fir region of the Pacific Northwest. After considerable investigation, a large body of timber in Cowlitz and Lewis counties, Washington, was purchased. The timber lies about fifteen miles north of the Columbia River. Following the timber purchase, an investigation was made of possible locations for lumber manufacturing plants which would have tide-water as well as railroad facilities. The site selected is a peninsula formed by the juncture of the Cowlitz and Columbia Rivers, fifty miles inland from the Pacific Ocean, fifty miles in a northwesterly direction from Portland, Oregon, and one hundred and thirty-three miles south of Seattle, Washington. Longview is being constructed on a site of 14,000 acres.

Longview can be reached by the Pacific Highway, the international north

and south motor artery extending from British Columbia to San Diego. The ferries operated across the Columbia River between Longview and Rainier, Oregon, which is on the Columbia River Highway, enable the thousands of tourists in the Pacific Northwest to go from one of these famous highways to the other through the new city, which is in the heart of the scenic grandeur of that section.

"A large body of land was necessarily acquired for our operations," said R. A. Long, founder of The Long-Bell Lumber Company and chairman of its board of directors. "The construction of a great many homes and buildings was necessary to provide facilities for our own people. As we began to work out our plans, we found the location we had selected would lend itself to greater development and provide facilities larger than were required for our own use.

"There fore, we concluded it was our duty, and such was our desire, to provide for a town that would be a desirable place in which many thousands of persons might live and do business. We have planned here for a city that within the next five years should have a population of 25,000, and within ten years of 50,000 or more.

The Long-Bell Lumber Company expects to confine its activities exclusively to the production and distribution of lumber products, hence an associate company, the Longview Company, has been incorporated to for-





Transferring Pipe from Ocean Liner to Railway

ward the development of the new city independent of the manufacturing operations of the Lumber Company.

On 2,000 acres of the land, The Long-Bell Company is erecting its great lumber manufacturing plants, which when completed will have an annual capacity of between 400 million and 500 million feet of finished lumber products. The latter figure is practically equivalent to the total production of eleven saw mills now operated by this company.

It is estimated by the Long-Bell Company that an operation as large as the one planned when completed will in itself employ the services of between 3,000 and 4,000 men. Counting those employees and their families, together with the many persons required to serve such a community, a conservative estimate of the population of the new city within a very short time is 20,000 people.

Some conception of the magnitude of the Long-Bell manufacturing oper-

ations at Longview may be had in the size of the electric power plant. When complete this plant will be capable of generating 36,000 kilowatts. The power plant building will be 310 feet long and 194 feet wide. Its two chimneys will be of reinforced concrete, 300 feet high, with diameters of 21 feet inside at the top.

The primary units of the lumber manufacturing plants will be two fir saw mills served by a 24-acre log pond, which is connected by a canal with a larger log pond of 126 acres. The latter pond is connected by a canal with an arm of the Columbia River, containing about 75 acres, which will be used also as a log pond.

Other features of the operations will be a cedar and hemlock mill, sash and door factory and veneer plant.

The lumber manufacturing plants will be electrically driven. Separate docks for vessels and freight cars will be built. Lumber and timbers cut for export will be stored apart from prod-

ucts designed for domestic markets. Hand labor and trucking will be practically eliminated by the use of overhead cranes and monorail trolleys, which will handle the products in "packages."

Export and coastwise lumber and timber docks will accommodate eight large ocean-going vessels at a time.

The double track main line railroad between Portland and Seattle passes Longview on the opposite or east bank of the Cowlitz River. This line is used jointly by the Union Pacific, Northern Pacific and Great Northern. The Longview, Portland & Northern Railway, a double track common carrier, is being built along the west bank of the Cowlitz and will connect with the trunk lines across the river over a bridge near the mouth of the Cowlitz. That will afford the new city direct access to the three transcontinental lines. In addition to being a common carrier, serving a prosperous agricultural district with both freight and passenger accommodations, the Longview, Portland & Northern will haul logs delivered to it by the logging railroad on Long-Bell and other nearby logging operations.

Longview has a frontage of seven and one-fourth miles on the Columbia River and five miles on the Cowlitz River. It is situated in the exceedingly fertile valley where those two rivers meet; the strategic point where the north and south trunk railways meet the great Columbia River at right angles, fifty miles from the ocean.

The Columbia River, in volume of water and commercial importance, is the largest west of the Mississippi and at Longview has a width varying between 3,300 feet and 6,000 feet. Its channel assures ocean commerce; and as ample turning and mooring facilities as many of the leading harbors of the world. The Cowlitz River is navigable at Longview for lighter draft vessels.

Longview has been called by visiting city planners "The city practical that vision built."



Longview's First School—half of it will be ready for the fall term



Two Hundred and Fifty Five-room Homes for the Workmen

In Longview, broad thoroughfares and boulevards, one hundred feet or more in width, are provided along all the principal natural lines of traffic. Some of these main streets radiate in various directions from the business center, yet they are so arranged in their relation to other streets that alternative routes are provided near the center, so that congestion of traffic is not forced to the center. The arrangement of those main thoroughfares tends to fix the permanent center and to avoid the shifting values so characteristic of our American cities. All the business streets are of ample width for present and future needs, and the blocks are quite short in the business area, giving a high percentage of property in

streets, while in the outer residential areas the blocks will be long. Thus the total area of streets in the townsite is distributed where it will be of the most value. In the hilly sections, the streets will be carefully adjusted to the topography of the land, thus preserving the unusually fine scenery and building sites of these areas.

A six-acre park has been provided at the center of the radiating thoroughfares, which is the focal point of vistas from various directions. Around this park will be grouped the various public and municipal buildings of a monumental character. While this park is at the convergence of the radiating streets, it is not the center of traffic.

A park area of one hundred acres

has been provided in the form of a crescent-shaped parkway, from 500 to 800 feet wide and a mile and a half long, surrounding the inner city on the westerly and southwesterly sides. This park area is bordered by two boulevards. There will be waterways through the park and ample areas of open lawn for recreation use. Other parkway treatments are being provided. All the outstanding natural beauties of the site will be preserved in park land. Areas which might become a menace to the city in private ownership because of being unsuitable for building are protected, and ample facilities for outdoor recreation of all kinds are amply provided in the park system.



The Community House and Recreation Center

Sources Of Our Immigration

Detailed study of racial characteristics of the people who come to the United States, with an analysis of their assimilability and how they have performed in the various industrial fields

Written especially for AMERICAN INDUSTRIES

By ALEXANDER GRAU WANDMAYER

Formerly Commissioner Plenipotentiary of the Ukrainian Government with the International Commission for the Liquidation of Austria

AMERICA—the richest and most progressive country in the world—is now confronted with one of its most serious problems. Industry, agriculture, transportation, finance, the home of every citizen, city, state and national administration, all are linked with the same difficult question. Only a small minority of inactive rich consumers, a few professional chauvins and some politicians do not see or do not care to see the vicious circle we are in. The American labor problem is becoming more and more acute. It is so intimately connected with and inseparable from the question of immigration that the leaders of American finance, transportation, business and industry call it: “Our Immigration Problem.”

President Roosevelt said that, in his judgment, the most important problem before the American people, next possibly to the question of conservation, was that of immigration. The United States Immigration Commission characterized that issue as one of vital interest to America. Yet, in spite of the fact that the immigration question has occupied the minds of Americans for a hundred years, only a few have ever attempted to go to the bottom of it, to determine scientifically the seat of the trouble and to find proper remedies.

It is extremely difficult for a trained economic mind, acquainted with the process of evolution of American industries, to see how that magnificent American industrial edifice built upon the steel and coal of Pennsylvania, Ohio, Illinois and Indiana could have been accomplished without the labor of the millions of immigrants who came to America.

And now there is a general and justified apprehension that that industrial edifice is being greatly impaired not because there is no demand for American products, nor for lack of capital, nor because America would like to lower its standard of living, nor because of the inertia of the leaders of our industrial life; but because of the labor or immigration problem, because of shortage of labor.

American industry requires a constant influx of fresh blood, young and

strong laborers not available in this country. Why not admit that Anglo-Saxon Americans do not care to work in mines or to mend roads, to be pick-and-shovel men? Why not admit that even the second generation of immigrants, those who cannot afford a college or university education, prefer a clerking job at twenty dollars a week to a six and seven dollars a day job in a factory.

The American public received a taste of what may happen to this country last summer during and after the railroad strikes and during the last winter with its coal calamity. In various large cities schools had to close because teachers and pupils were down with influenza. Health officers had to invoke the laws of the states, overpower train crews and seize trains loaded with coal. There was a general outcry to place an embargo on all shipments of coal to Canada, and the neighboring Dominion had sent us warnings of retaliation.

AMERICAN INDUSTRIES published a symposium, contributed to by our foremost leaders of business and industry, in which they almost unanimously expressed their opinion that the present Three Per Cent Immigration Law should be amended. They suggested remedies, but all these suggestions might well be supplemented with a comprehensive study of conditions of labor in those countries from which desirable labor can effectively be drawn. Since the question of scientific selection of immigrants is also of great importance, it is necessary to examine and to determine in which of those countries with available labor, the best qualified for our industries can be found and under what conditions immigration from those countries may be invited and facilitated.

The opinion of the average American on immigration is: “If the country cannot dispense with immigration, let us draw from Northern and Western countries, whose civilization and standard of living is similar or nearer to our own.” There is a general conception that immigrants should be drawn in the first place

from so-called Nordic countries, to wit: England, France, Belgium and Scandinavia. But only those acquainted with immigration conditions know that, even if America were to pay a premium for each immigrant from those countries, only a very limited number could be secured. The British Dominions offer better opportunities for Englishmen than we do, while their qualifications and willingness to perform hard work is quite in line with the disqualifications for the pick-and-shovel job of the native American. Revolutionized and devastated Ireland again needs its healthy laborer for the new Free State and can eventually dispense with only a few thousand men seeking to fill here the ranks of street car and bus conductors.

The idea of drawing immigration from France and Belgium must be dismissed, for the simple reason that these two countries are to such an extent industrialized that they are not only often short of unskilled labor, but permanently in need of farm hands, who are continuously imported from Italy and Poland.

As to the Scandinavian countries conditions appear to be different. Sweden for instance is to a certain degree a potential source of highly desirable immigration. Its Three-Per-Cent-Quota is not exhausted and owing to an over-expansion of its industries, Sweden is now facing the serious problem of unemployment, which is expected to last during the next few years. Swedes are mostly mechanics and agriculturists. According to official classification of immigrants from Sweden they consist of 20% farmers, 10% farm hands, 9% factory hands, 8% unskilled labor, 5% carpenters, 5% domestic servants, 3.5% ship help, 4% miners, while the balance consists of merchants, tailors, barbers, masseurs, etc. Since Sweden has only six millions of population, it is quite evident that the number of immigrants to be expected from that country is not very large. Much less could be expected from Norway whose population is about two millions, while an equal number of Norwegians is already in this country. Norwegians are known as farmers and sailors, and

Why Risk the Confidence of a Customer for a Few Cents?

The following letter, received recently from a resident of Richmond Hill, N. Y., calls attention to a subject which merits the careful consideration of automobile manufacturers:

Three weeks ago I purchased a _____.
[The car mentioned is one in the \$1,500 class.]
It runs fine, has splendid body lines, and
I am proud of it.

Last night I got caught in a heavy rain. This morning when I went into the garage I was distressed to see the screws which fasten the snappy-looking trunk guards on the panel in the rear of the body literally oozing rust all over the back. The screws were nickel-plated, but instead of being Brass were steel. First time out in a rain and this is what happened.

Not only that, but the rivets which fasten on the trunk locks, have also played me the same trick. The wire rim which holds the glass of the tail light has also shed its nickel coat and looks like the mischief.

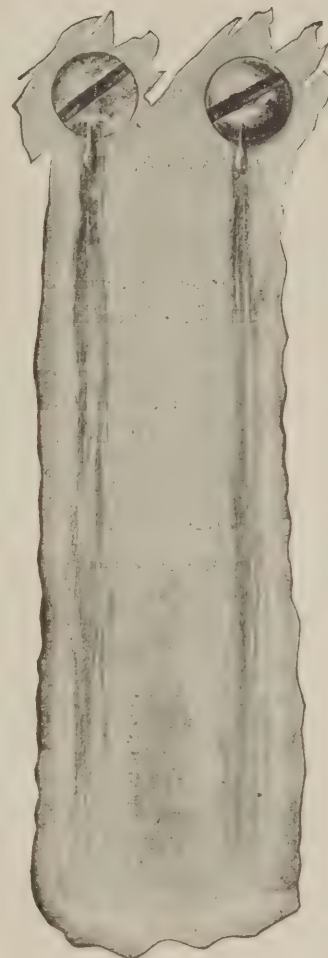
What I am worried about is what will happen when the damp, moist summer air in this neck-o'-the-woods gets in its fine work.

This is only a little thing, to be sure; but it has lowered my estimate of the _____ company considerably.

The few cents difference in cost of a few Brass screws and a piece of wire is a paltry sum for which to trade the confidence of a customer—for I contend that if the automobile industry is to continue to prosper in this country it is going to be on the basis of repeat orders by car users.

Perhaps YOUR production engineers have overlooked the practicability of using Brass for screws, bolts, nuts, washers and similar small assembly parts to cut manufacturing costs and improve the value of your product.

We have assembled in a folder interesting data presenting the economy of Brass for screw machine work, which we will be glad to mail to you. Just drop us a postal card and it will come by return mail.



COPPER & BRASS
RESEARCH ASSOCIATION

25 Broadway - New York

accept factory work only when driven to it by dire necessity.

The number of immigrants from Denmark is so negligible and their qualification for industrial purposes so unsatisfactory that by no means can they be of any consideration to our present need of labor.

One of the potential sources of immigration to-day is Germany. Over sixty millions of population in misery and need; people of energy and sincere desire to recuperate after the horrible mess caused by the late war: They are qualified for every kind of work, from fine mechanics down to mining, digging and shoveling; yet, the prejudice against them in this country is still great. Moreover there is the question whether the present state of mind of the German laborer would qualify him for our industrial requirements.

The same can be said of the citizens or subjects of present Austria, who also have a great desire to come to America, but who lack money to defray the necessary traveling expenses. There might be less antagonism and suspicion towards Austrians, but their stubbornness and unwillingness and utter lack of enthusiasm to perform the hard back-breaking pick and shovel work, makes them a priori undesirable.

In the centers of our basic industries in all the coal mine, ore and steel districts the opinion of employers and labor men is unanimous that the Slav as pick-and-shovel man stands high in value. Some prefer Magyars, but from the present Hungary only a small number of immigrants can be expected. The three Slavonic countries, however, which heretofore, have supplied America amply with labor must be considered as the great reservoirs from which our needed labor could be drawn. And these countries are: Czecho-Slovakia, Poland and Jugo-Slavia. They are the ones who do the digging, shoveling, pushing and lifting; the grinding and hewing.

The Slovak is the best known and most appreciated immigrant in the State of Pennsylvania. He belongs to the oldest Slavonic immigration in this country and is like his nearest neighbor — the Uhro-Rusin — almost exclusively represented in mining. These two related Slavonic groups, were, previous to the peace treaty of St. Germain, Hungarian subjects, but from now on together with the Czechs, Moravians, Silesians and German-Bohemians, compose the new Republic known as Czecho-Slovakia. That new Slavonic Republic covers an area of over 87,000 square miles and has a population of approximately 18,000,000. There are also many hun-

dred thousands of Czechs or Bohemians in this country and, although nearly related as racial groups to the Slovaks whose language is the same as the Czech, they are principally employed in factories and slaughter houses in Chicago and other large cities.

For a long time Czecho-Slovakia ought to be considered as one of the great reservoirs of labor possessing the very qualifications required of the immigrant of the most desirable type — intelligent and diligent people working in basic industries and developing natural resources. A great number of Czechs are skilled workers employed in the shoe industry and in textiles, but the most efficient and enthusiastic pick-and-shovel men, the miners and steel workers, the blasters and diggers, are Slovaks and their brothers, the Uhro-Rusins or Ruthenians. Another sympathetic feature of this group of immigration is that they are qualified for naturalization because they have an understanding of American institutions and a desire to become good citizens. While the Czecho-Slovak Government endeavors to grant to the Slovaks and Magyars certain local autonomy in questions of cultural and economic matters, there exists among the Slovaks and Magyars a decided opposition against the general politics of the new state, and that opposition is so strong and embittered, their unwillingness to adjust themselves to conditions of the new Republic is so decided that, in the event of relaxation of our immigration laws, an exodus of those dissatisfied elements must be expected. It must be borne in mind that Czecho-Slovakia with its 18,000,000 population has 2,000,000 Slovaks, 4,000,000 Germans, 500,000 Ruthenians and 500,000 Magyars.

The inhabitants of the Balkans represent the most remarkable racial blending. They consist of Serbes, Croations, Slovenes, Bosniaks, Bulgars, Herzegovinians, Montenegrins, Roumanians and Dalmatians, although these races and nations are not the only inhabitants of that Eastern portion of Europe known as the Balkan Peninsula. Apart from the nations above mentioned, there are also Turks, Greeks, Jews, Armenians, Albanians, Gypsies, and other tribes in the Balkans, though—with the exception of the great percentage of Turks—their number is negligible.

The country known to-day as Yugo-Slavia, or the Kingdom of Serbes, Croats, and Slovenes, has a population of about 14,000,000 and is composed of Serbia, Croatia, Slavonia, Delmatia, Bosnia, Herzegovina, Istria, Montenegro and a large part of former Hungary.

We see, therefore, that the country embodies a mixture of races and nationalities, united by one common language (although the Slovenian idiom differs slightly from the Serbian or Croatian). There is, however, a prominent cultural distinction between Serbs and Croats, Delmatians and Slovenes.

All the races of the Balkans have in common: admirably developed muscles, fit for the hardest work; self-sufficiency and obstinacy. Serbians, Croations and Dalmatians or Montenegrins are quick tempered and passionate; Roumanians and the Bulgarian, again slow, phlegmatic and obdurate. The Roumanian is fond of good living; the Bulgarian, on the other hand is penurious. Their intelligence and natural gift for foreign language is comparable only with the similar aptitude of educated Poles and Russians.

The natural resources of the Balkans are very rich. There are ore deposits, extensive forests, fertile soil. Yet, numerous districts of the Balkan are extremely poor, owing to their mountainous character, viz. Herzegovina, Montenegro and Dalmatia; and the poor population of these regions generally emigrate.

The Dalmatians belong to the oldest Slavonic immigrants in this country. They are great sailors and they have settled here largely in the so-called maritime states. Dalmatia, as has been said, is a poor country, one of Nature's step-children, and has been **systematically impoverished by Austria** for more than a century.

The great majority of the Balkan Slavs consist of peasants, and all are very democratic. All are diligent and religious; they have much respect for authority and love family life. There are more than one million Balkan Slavs in the United States. They are mostly represented in the basic industries. Serbians, Croations, Dalmatians and Montenegrins, are to be found in larger groups in Montana, California, Washington, Minnesota, Pennsylvania, Illinois, Oregon, Iowa, Nevada, South Dakota, Ohio and even in Kentucky; while Bulgarians in larger numbers have permanently or temporarily settled in the States of Washington, California, Illinois, Pennsylvania, New York, Michigan, West Virginia, Ohio, Nevada, Montana, Oregon, Wyoming, Wisconsin, Arkansas and Indiana. Their principal occupations in this country are: mining (coal, ore and minerals), manufacturing steel and iron; ranching; farming; gardening; shipping; repairing of roads, railroad and canal construction; and other work most essential to our well-being.

Poland was and will remain for a

ANNOUNCEMENT

The Great Northern Steamship Co.

(INCORPORATED)
BOSTON, MASS.



Announces that Arrangements Are Now Being Made for Monthly

\$110 Round Trips to Europe

BOSTON—SOUTHAMPTON

\$110

One Way \$65

Connecting for

London, Liverpool, LeHavre

BOSTON—GOTHENBURG

\$138

One Way \$75

Connecting for

Christiania, Stockholm, Helsingfors,
Danzig, Riga, Copenhagen

The Above Prices Include Railroad Fares to Points as Far North as Stockholm

The Company plans to carry approximately two thousand passengers monthly. Make your plans now for a trip during the coming season.

Lives of passengers will be protected by **EVER-WARM SAFETY-SUITS**
which prevent drowning and protect from exposure

A round trip, with all expenses on shipboard included, at no more expense than a vacation right here at home! To meet the ever-increasing demand in this country for an inexpensive and at the same time thoroughly comfortable and enjoyable trans-Atlantic voyage, is the prime object of the Great Northern Steamship Company. Organized by progressive business men who realize the exceptional opportunity offered now for inexpensive travel in Europe, the Company will cater to the

thousands of intelligent persons who wish to visit the battlefields of France, the Shakespeare country, Scandinavia, the Land of the Midnight Sun, etc. A chance of a life-time! So it would seem; but it is more than that. The company is building for a permanent business, setting a new standard of high-class ocean travel on a one-class basis. That this can be done at a fair margin of profit has already been proved and is further outlined in our prospectus. You'll find it extremely interesting.

WE WILL ALSO SHOW YOU HOW YOU MAY BECOME A PART-OWNER IN THE MOST TALKED OF ENTERPRISE IN YEARS

Cut out and mail us with your name and address.

A. Wikstrom
Information Dept.
Edmunds Bldg., Suite 54
Boston, Mass.

I am interested in securing full information regarding a trip to:

(Mark with a cross)	One way	Round trip
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France
Germany
Sweden
Norway
Denmark
Baltic Provinces
Finland
Russia

Name
Street or R.f.d.....
City or Town.....
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I am interested in becoming part-owner in the Great Northern Steamship Company.

Please send me prospectus and full particulars.

Name

Street or R.f.d.....

City or Town.....

State

long time a considerable source of available manpower. While the exodus of Poles from the former Prussian Province of Poland began in the eighties the extensive emigration of Poles from Galicia and Russian Poland started at the end of the nineteenth and the beginning of the twentieth century, and reached great proportions a few years previous to the world war. Polish politicians and writers used to complain that about 4,000,000 of their nationals who were said to have emigrated to this country were lost to the Polish nation, but that was an exaggeration. Including Galician Ruthenians and White Russians from Poland's border lands, possibly 3,000,000 have emigrated to this country during the last thirty years, but about 2,000,000 of them either have returned to their native lands or died out since. It is generally estimated that something more than a million Poles have definitely settled down in the United States. Poles and Galician Ruthenians have located mainly in the Middle West and are strongly represented in the East and the New England States. While the great bulk of these people are farmers (in Poland 65% of the population are engaged in agriculture), Polish immigrants are constantly on the look-out for industrial jobs which they find remunerative beyond expectation. Hence an eternal inclination to migrate and to wander from one industrial center to the other. There are a few hundred thousand Poles in Chicago and vicinity, nearly a hundred thousand of them in Buffalo, Niagara Falls, Rochester, Syracuse and surrounding towns; about a hundred thousand in Pittsburgh, Philadelphia and Cleveland and about two hundred thousand in New York and nearby cities on both sides of the Hudson. Since only a small number of Poles possess any skill as mechanics and as comparatively few are engaged in trade and commerce, they naturally represent the very type of

It is the paramount duty of every patriotic American to take an interest in the immigrant, to try to contribute to his protection, education and Americanization—protection against exploitation practiced by various domestic and foreign individuals, who see in the immigrant an easy prey. The educational program prepared for them I should condense to a few words: Teach the immigrant English, and when he is able to follow you, instruct him in civic matters; remind him of his privileges as well as of his duties towards this country. In this manner you will Americanize him. By learning English, he will emancipate himself from the pernicious influence of foreign agencies and

other factors hindering his adjustment to American life.

Here is a wide field for patriotic work, for teachers and educators, for fraternity organizations and other patriotic societies; for all with good will toward this country. Immigrant Aid Societies should be controlled only by Americans. Personally, I have no confidence in aid societies controlled and managed by foreigners or Americans of foreign birth, as too much foreign politics enters into such organizations. American citizens of foreign extraction should be consulted and trusted only after proof of their

not being affiliated with foreign governments; of having no ambition to receive decorations from foreign potentates; and of their work not being subsidized by foreign governments. Mingle with the foreigner, take an interest in him and his family, and you will see that he will soon trust you more than his own countrymen. If he still deals with the banker, notary public, steamship agent and others of his own nationality, it is because he is compelled to do so, his ignorance of English preventing him from applying to real American institutions.

Big Reclamation Projects

Secretary of the Interior Work is planning to spend an additional \$225,000 to investigate possible reclamation projects in Western States. When the new Congress meets he is going to ask for this sum for the fiscal year of 1925, he has announced.

The money will be used to examine into reclamation areas in eleven Western states and cover around eighteen proposed projects. A description of them by the Department of the Interior follows:

ARIZONA—There are possibilities of development in Arizona on the Little Colorado and Williams Rivers and other tributaries of the Colorado below Lees' Ferry, upon which the information is meager and on which further investigation seems advisable.

CALIFORNIA—In the Sacramento Valley the Reclamation Service has already surveyed, in coöperation with the Sacramento Valley Development Association, a storage reservoir in Iron Canyon and a high line canal leading from this reservoir to utilize its waters. This project proved so expensive that the association now requests the survey of a lower line which will be much cheaper than the high line surveyed, and it is expected that the state or other local interests will share in the expense necessary for further investigations. Request has also been made for the examination of a project for a movable dam on the lower Sacramento to prevent the salt water from San Francisco Bay flowing into the Sacramento River, which has caused great damage to the interests in the lower Sacramento Valley by rendering much of the water unfit for irrigation and domestic use. Requests have also been made for the examination of irrigation possibilities in the Hay Fork River Valley.

COLORADO—The White and Yampa Rivers flow from Colorado into Utah and may be used in both states. The locality and extent of

possible uses are important facts to be investigated. These involve mainly public lands.

The San Juan Basin, lying partly in Colorado and partly in New Mexico, should also be further investigated. This refers mainly to public and Indian lands.

IDAHO—The Dubois project has already been partially investigated and involves a large area of very fine land. It is proposed to complete this investigation with the contemplated allotment. Along Snake River are numerous rapids which could be developed for power to pump upon lands in their vicinity. The Reclamation Service has been petitioned to investigate these possibilities. The Black Canyon Irrigation District was formerly a portion of the Payette-Boise project, and recent developments indicate that it may be more favorably regarded now than formerly by reason of coöperation in the construction of a high dam in Black Canyon, which is now being built for the Emmet Irrigation District. Further investigations are necessary to work out this project.

NEBRASKA—Along the Platte River in Nebraska are several projects involving storage and diversion of the flood and seepage waters, and also in some cases drainage works.

NEVADA—The use of the waters of the Virgin and its tributary, the Muddy River, should be investigated to learn the extent of this use and where the waters can be best applied.

OREGON—Requests have been made for further examination of the Warm Springs and other projects in Oregon, and it seems desirable to meet these so far as possible.

TEXAS—A reservoir in the Pecos Valley, near the northern line of Texas, is proposed for the storage of the waters of the Pecos for use in Texas under canals already built, for which the water supply is inadequate.

Uncle Sam's Balance Sheet

Giving an idea of the process through which claims against the government must go and why some perfectly good accounts must take a circuitous route before they receive final adjustment

Written especially for AMERICAN INDUSTRIES

By OLLIE ROSCOE MCGUIRE

General Accounting Office, Law Division, Treasury Department

THE average business man thinks that when Congress has appropriated funds for the varied activities of the Government of the United States and the officers of the several departments have disbursed those funds, there is an end of the matter, but the particular business man who has had business dealings with the United States and has been called upon two or three years later to refund a portion, or all, of the payment is better informed; he has experienced the realization that the legality of a payment may be called in question a year or two after it was made and that he may be called upon to refund the money, or stand suit for its recovery. Such a realization is unpleasant to the particular business man, but how about it to the other business men of the country

and what was the momentum behind the demand.

The Federal Government is one of checks and balance with Congress holding the purse strings. When it has made an appropriation for the improvement of the Tombigbee River, for instance, it does not intend that the money shall be used for the irrigation of Death Valley nor for hunting grass seeds along the Niger River. It would be extremely bad business for Congress to tax the people of the United States to establish and maintain an expensive printing establishment for the sole purpose of doing the printing required by the various departments and then to permit those departments to patronize private printers. If the United States is in the market for lumber, for instance, every business man in the Unit-

ed States who deals in lumber is entitled to demand that supplies be purchased by the Government. He cannot hope to do so unless the United States advertises that it is in need of lumber and the contracts therefor are let to the lowest responsible bidder. Even the business man who does not desire to do business with his government is entitled to demand that supplies be purchased at the lowest price obtainable in order that his taxes may not exceed the sum necessary for the economical and efficient administration of public affairs. There are a mass of statutes regulating the letting of contracts, disbursement of public funds, etc., and the agents of the Government must conduct their operations in conformity with these statutes.

Detailed laws as to how supplies may

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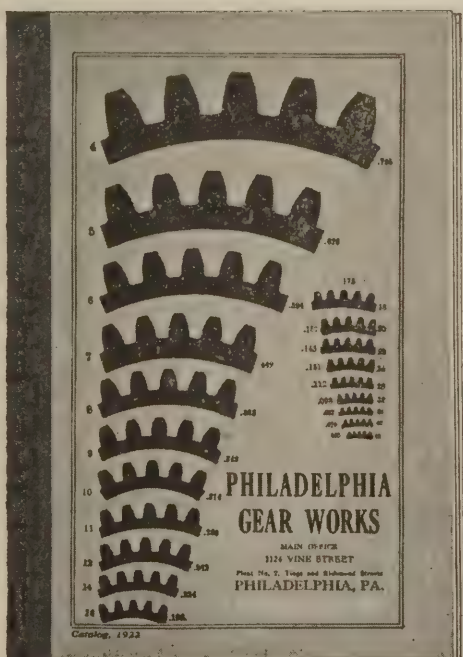
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be obtained and as to the manner in which the various departments shall expend the money appropriated for their support are not sufficient in themselves. To insure compliance with their terms, Congress has established the General Accounting Office whose function it is to apply the acid test to every fiscal transaction, saving certain diplomatic ones, of the various departments and establishments of the government. "The eyes of Congress" is the term applied to this office. Its personnel consists of a comptroller general, and an assistant comptroller general appointed for terms of fifteen years each and a trained force of attorneys, law clerks and clerks appointed on the basis of merit and subject to the Civil Service laws. How does it function?

The total amounts of money appropriated for each activity of the several departments and establishments of the government are entered on the ledgers of the Treasury Department and are from time to time transferred on requisitions from the heads of departments, or their specifically authorized representatives, approved by the General Accounting Office and the accountable warrants countersigned by the comptroller general, to personal ledgers in the General Accounting Office to the credit of the disbursing clerks and officers of the departments. No department is allowed any portion of the funds appropriated for any other department unless in payment for services rendered or supplies furnished and when the total amounts appropriated for any department have been so transferred, no requisitions are honored nor accountable warrants countersigned until Congress has seen fit to provide additional funds.

After credit has been given a disbursing officer on the books of the General Accounting Office and funds have been placed to his credit with the Treasurer of the United States the disbursing officer is ready to pay bills incurred by his department. These bills are for almost everything from a paper of pins to a battleship or from a temporary barracks building on some remote military reservation to a palatial public building in a great city. If Congress has specified that there be no temporary buildings erected on military reservations or that no public buildings be erected without a specific law therefor, a business man who erects such a building is not entitled to payment. All restrictions are not contained in current appropriations measures but many of them run back almost to the foundation of the government. The unthinking business man is likely to become impatient with the very thought of such

restrictions and term them "red tape."

Necessarily he is speaking from his own experience and his error arises through his comparison of government business methods with his business methods. He forgets that the business of all the people is greater than the business of any single individual or firm and leaves entirely out of consideration the personal equation. The desire for success, the desire for profits, and the sense of individual responsibility make for short-cuts in private business while competition and the bankruptcy courts reduce extravagance to a minimum. Not so with the government. There is and can be no sense of individual responsibility for the reason that there is little continuity of office among the more important officials, and the spending of the money of other people often bring on habits of extravagance. Hence the necessity for minute restrictions on the use of public funds and the establishment of machinery to see that the restrictions are followed to the letter.

Disbursing officers, with few exceptions, are required to be bonded and the enforcement of the statutory restrictions is effected in the audit of their disbursements. They are required to present, at specified intervals, to the General Accounting Office their statements of account. The disbursing offi-

cer debits himself with the funds on hand at the beginning of the accounting period and with the amount of funds received since that time. He credits himself with all disbursements made during the accounting period and attaches to his statement of account the vouchers and papers which he relies upon to prove that the disbursements were properly made. Upon receipt of the account, the General Accounting Office applies the acid test to the disbursements to determine whether they were made from funds authorized for the particular procurement, whether in accordance with the regulations of his department, and in accordance with the contract or agreement for the procurement.

Credit is given for all disbursements standing the acid test and denied for all that cannot stand it. As the personnel of the General Accounting Office is limited, the audit of the account may not be made until some time after it was rendered but when made the disbursing officer is furnished with a statement of differences showing the payments for which credit is denied and the reasons therefor. He stands charged on the books of the General Accounting Office with the difference between his receipts and the approved payments and is responsible therefor even though the payment, with certain exceptions, may have been made under the personal direction of the head of the department. When confronted with the disallowed credits, the disbursing officer makes demand on the payee for a refund of the payment, or portion thereof, disallowed and it is here that our business man begins to learn that because a disbursing officer sent him a check in payment of his claim the claim is not closed. The United States Revised Statutes, as amended, provide that all accounts in which the United States may be interested either as a debtor or creditor shall be settled and adjusted in the General Accounting Office; the matter is not finally settled until after the account of the disbursing officer has been audited and credit for the payment allowed. The conclusions reached by the General Accounting Office are final and conclusive on the heads of all executive departments which means that there is no appeal save to the courts or to Congress and the disbursing officer must either collect the erroneous payment or his bondsmen are required to make it good. In the latter event, the surety is subrogated to the rights of the United States and will look to both the disbursing officer and the payee for payment.

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perienced disbursing officers very careful and they attempt to send all demands presented to them for payment about which there is any doubt to the General Accounting Office for direct settlement as a claim. All collections on behalf of the Government, save in the case of taxes and duties, are supervised by the General Accounting Office and where a debtor or surety refuses, upon demand, to make payment, this office initiates legal proceedings to enforce payment.

Not only does the General Accounting Office keep a record of all appropriations for and disbursements of the executive departments, settle the claims for and against them, audit the accounts of their disbursing officers, but it prescribes the forms, systems and

procedure for their administrative accounting and investigates and makes recommendations to Congress as to their application of public funds. Last, but not least, Congress has a standing direction to the General Accounting Office to report to it every contract or transaction made by any of the departments in violation of law and it is authorized to make recommendations to Congress of measures designed to remedy defects in the laws coming under its observation.

In a word, the General Accounting Office bears somewhat the same relation to the people of the United States as an auditor does to his corporation with the exception that the decision of the General Accounting Office is decisive in the matter so far as the executive officers of the Government are concerned.

panied by the presentation of a check for \$1,000 to be applied to the employees' benefit fund of the California company, under the terms of the Foundation. The Foundation was established by the board of directors of the General Electric Company in December, 1922. It constitutes a tribute to Charles A. Coffin, who retired that spring after forty years of association with the electrical industry, this period including the founding by him of the General Electric Company, of which he was the leader for thirty years. The Foundation comprises a fund of \$400,000 the income from which, amounting to approximately \$20,000 per year, is to be devoted to rewarding outstanding service in the electrical field.

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PUBLIC UTILITY WINS MEDAL

(Continued from page 26.)

panel appears the name of the company receiving the award.

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Certificates Of Origin For Italy

IN order that American exporters or Italian consignees may secure customs tariff privileges granted by Italy for certain classes of American goods under the Commercial Treaty with the United States and under the "most favored nation" clause, a certificate of origin is necessary. Details in connection with this certificate are described as follows by the Italian Chamber of Commerce in New York in a communication to the National Association of Manufacturers:

"The manufacturer, or actual exporter, must draw up and sign a sworn declaration, attested to by a notary public, that the goods are the product of the United States, giving a description of the merchandise exported, number and quality of packages, marks and numbers, weight or measure, name of steamers, and expected sailing date, port of loading

and destination, name of shipper here and name and address of consignee in Italy. All these details must exactly tally with those contained in the steamer's bill of lading. The party making the declaration shall state whether he is manufacturer or exporter and if his name is different from that of the shipper as appears on the bill of lading, then the declaration must contain a statement to the effect that such shipper is the authorized shipping representative of the said manufacturer or exporter.

"If the manufacturer or exporter is a corporation, the declaration must be signed by one of its officers; if a partnership, by one of the partners. No other signature will be considered valid.

"The declaration must then be filed with the Italian Chamber of Commerce in New York (99 Hudson street) together with a signed (not

negotiable) copy of the bill of lading on which the merchandise is shipped and on which the Chamber will make the proper certification as to the origin of the goods. This copy of the bill of lading so certified will then be returned to the shipper and serve as certificate of origin.

"Printed forms of declaration may also be obtained at the Italian Chamber of Commerce."

It should be kept in mind, however, that the certificate of origin is obligatory only when the merchandise shipped from the United States is of the class which enjoys customs tariff privileges. For this reason American exporters should always, when executing orders for Italy, consult the Italian-American Treaty or refer the matter to the consignee, as otherwise the certificate of origin, being unnecessary, would simply increase the amount of expenses.

Argentine Business And The Tariff

"FOR the last two months there have been very heavy importations of American-made merchandise into this country due to the agitation of the tariff, there being under discussion now in the House of Congress a new Tariff Bill to replace the one at present in vogue," writes an Argentine correspondent of the National Association of Manufacturers. "If no definite action is taken by Congress and the Minister of Finance insists that the country requires money to carry on the government's business and pay the coming interest on its debts, Congress may pass an Emer-

gency Tariff Bill over night.

"It is this agitation and belief that has caused the great increase in buying and especially the Custom House receipts, which up to date are twenty million dollars (Argentine currency) more than they were at this time last year. We have fewer failures comparatively with the months of lost year and every indication to-day is that things should be better and more prosperous during the months to come.

"We have recently had several delegations of visitors from the United States, one from the Pacific

Coast representing the Chambers of Commerce of Los Angeles, San Francisco and Portland. They came on the initial trip of the Pacific East Coast Line boat called the *President Hayes*. Since the first visit of the *Hayes* we have now here the *President Harrison* which is sailing to-morrow with a full cargo of exports from the Argentine and a complete passenger list. Indications are that this line in course of time will be a commercial link for bringing together the interchange of commerce between the United States and the Argentine, especially on the Pacific Coast."

Machinery Markets In Asia

An excellent report on machinery markets in Asia has just been issued by the Department of Commerce. It was written by W. H. Rastall, now chief of the Industrial Machinery Division, who has had wide experience in the regions involved.

The report shows clearly that startling changes have taken place in this trade. During the last four years these markets have absorbed some \$242,000,000 worth of American industrial machinery, which is more than would have been absorbed in five

decades at the 1915 rate. In the confusion of other great events, especially in Europe, the significance of this appears to be unnoticed, but it is really of great import. The potentialities of such a volume of machinery in the hands of the millions of Asia are tremendous.

Mr. Rastall finds that Asia, from Yokohama to Bombay, is ready to be industrialized; that American engineering and machinery are appreciated, and that the sales problem is much simpler than before the war.

He is of the opinion that we can export there about \$40,000,000 to \$50,000,000 worth of machinery per year, and foreign sales managers should develop their organizations to correspond.

Altogether this report covers 332 pages of carefully prepared material, showing in detail the volume and importance of the trade, the methods to be employed in promoting machinery sales there, and giving valuable information and advice on packing, advertising, and the types of machinery that have been found suitable.

British Cotton In Australia

The British Cotton Growing Association report 1922 shows a surplus of £33,008 after depreciation and taxes, which increased income over expenditures to £59,522 for the year.

The number of bales marketed by the association in 1922 constituted a record, being 67,386. The value of the cotton, £1,628,778, was higher than in any previous year except 1920 when it was £1,699,144. In that year 23,513 bales were marketed, but exceptional prices were ruling.

Notwithstanding that production of cotton in new fields within the empire shows a falling off, the report states that the prospects for the future are distinctly promising. The setback, it is said, was caused by climatic and economic conditions which occasionally arise. Certainty is expressed that within the next few years large quantities of cotton will be produced within the empire.

Those areas which, at the present time, give the greatest promise are the Sudan, Northern Nigeria and Uganda. The acreage planted in Uganda for the 1922-23 season was estimated at 340,000, a considerable increase over any previous year.

Great efforts, the report says, are being made to establish cotton-growing in Australia. The Commonwealth Government has guaranteed Queensland growers 5½d per pound for seed cotton delivered at the nearest place of shipment for one year from August 1. The New South Wales Government is offering growers a three-year guarantee for seed cotton delivered at the ginneries, 5½d per pound for the first year, 4¾d for the second and 4d for the third year.

NEW RAILROADS FOR AFRICA

Three new railroads are planned for construction within the next five or six years to connect the Belgian Congo, Rhodesia and Central South Africa, according to a report made by Consul Pisar to the Department of Commerce.

The proposed railways include the connection of the Katanga and Kasai districts of the Belgian Congo, with the mouth of the Congo River, the completion of the Benguela Railway and the construction of a new line between Walvis Bay and Mafeking.

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JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
King Cotton	Electricity at Work	Workman's Lesson	Man He Might Have Been	Making American League Baseball	An American in the Making

PHILADELPHIA CIRCUIT (Pennsylvania, Maryland, Delaware)

Distributed by the Pennsylvania Manufacturers' Association
W. W. Finn, Secretary, 2001 Finance Building, Philadelphia, Pa.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
The Crime of Carelessness	King Cotton	Electricity at Work	Workman's Lesson	Man He Might Have Been	Making American League Baseball

INDIANAPOLIS CIRCUIT (Indiana)

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F. M. Smith, Secretary, 1053 Lemcke Annex Building, Indianapolis, Ind.

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Metals and Minerals	The Crime of Carelessness	King Cotton	Electricity at Work	Workman's Lesson	Man He Might Have Been

DETROIT CIRCUIT (Michigan, Wisconsin)

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Man He Might Have Been	Metals and Minerals	The Crime of Carelessness	King Cotton	Electricity at Work	Workman's Lesson

CHICAGO CIRCUIT (Illinois, Minnesota, Iowa)

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JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Workman's Lesson	Man He Might Have Been	Metals and Minerals	The Crime of Carelessness	King Cotton	Electricity at Work

LINCOLN, NEB. CIRCUIT (Nebraska, No. Dakota, So. Dakota, Wyoming, Colorado, New Mexico)

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O. H. Zumwinkle, Commissioner, 212 North Eleventh Street, Lincoln, Neb.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
An American in the Making	Workman's Lesson	Man He Might Have Been	Metals and Minerals	The Crime of Carelessness	King Cotton

SEATTLE CIRCUIT (Washington, Montana, Idaho, Oregon)

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John H. McIntosh, Manager, American Bank Building, Seattle, Wash.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
The Menace	An American in the Making	Workman's Lesson	Man He Might Have Been	Metals and Minerals	The Crime of Carelessness

SAN FRANCISCO CIRCUIT (California, Nevada, Utah, Arizona)

Distributed by the California Manufacturers' Association
Fred Boegle, Jr., Secretary, First National Bank Building, Oakland, Cal.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
The Crime of Carelessness	The Menace	An American in the Making	Workman's Lesson	Man He Might Have Been	Metals and Minerals

ST. LOUIS CIRCUIT (Missouri, Kansas, Oklahoma, Arkansas, Texas)

Distributed by the Associated Industries of Missouri
Elmer Donnell, General Manager, 1306 Boatman's Bank Building, St. Louis, Mo.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Making American League Baseball	The Crime of Carelessness	The Menace	An American in the Making	Workman's Lesson	Man He Might Have Been

LOUISVILLE CIRCUIT (Kentucky, Tennessee, Louisiana, Mississippi, Alabama)

Distributed by the Kentucky Manufacturers' Association
C. C. Ousley, Secretary, 76 Kenyon Building, Louisville, Ky.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Man He Might Have Been	Making American League Baseball	The Crime of Carelessness	The Menace	An American in the Making	Workman's Lesson

RICHMOND CIRCUIT (Virginia, W. Virginia, No. Carolina, So. Carolina, Georgia, Florida)

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JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Workman's Lesson	Man He Might Have Been	Making American League Baseball	The Crime of Carelessness	The Menace	An American in the Making

NEW YORK CIRCUIT (New York, New Jersey, Connecticut)

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JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Making of a Watch Workman's Lesson	Making of a Watch Workman's Lesson	Making of a Watch Workman's Lesson	Making American League Baseball	Making of a Watch Workman's Lesson	The Menace Making of a Watch Workman's Lesson
The Crime of Carelessness	The Crime of Carelessness	The Crime of Carelessness	Workman's Lesson	The Crime of Carelessness	The Crime of Carelessness
Man He Might Have Been	Man He Might Have Been	Man He Might Have Been	The Crime of Carelessness	Man He Might Have Been	Man He Might Have Been

FOREIGN TRADE OPPORTUNITIES

Inquiries for American goods received by the National Association of Manufacturers from abroad appear in these columns. In order that the confidential nature of the inquiries may be preserved for the benefit of our members, the addresses of inquirers will not be printed in "American Industries," but the inquiries are numbered, so that members interested in communicating with any of the inquirers may obtain the addresses by writing to the Foreign Trade Department of the Association at 50 Church Street, New York, and mentioning the number or numbers whose addresses they may desire.

Where no language is mentioned, letters in English will be understood.

CUBA

Leather and skins for the manufacture of shoes for Cuba. The representative of a number of American manufacturers in other lines desires to add the above to the articles he is now carrying. Correspondence in Spanish. (842)

MEXICO

Flexible floats for salvage of 150 cubic meters. A Mexican inquirer desires to hear from firms prepared to furnish the above for marine salvage work. (843)

Small portable cotton gin to be driven by producer's gas motor is of

interest to a firm of merchants in Mexico. Correspondence in Spanish. (844)

Machinery and apparatus for white enameling sanitary fixtures are of interest to a manufacturer of sanitary supplies in Mexico City. Correspondence in Spanish. (845)

Stationery and supplies of all kinds for office and school use, postal cards, prints, frames, paper, etc. Quotations and catalogs are desired by the proprietor of a book shop and stationery store in Mexico. Correspondence in Spanish. (846)

Show and display cases, frames only, knocked down and unglazed, are of interest to a merchant in Mexico City. Correspondence in Spanish. (847)

COSTA RICA

Food products generally, such as rice, flour, codfish, corned and pickled beef, canned goods and meats, patent medicines, dry goods and notions are of interest to a firm of general merchants in Costa Rica. (848)

HONDURAS

Book news, wrapping and writing papers, stationery of all kinds and drawing materials are of interest to a purchaser in Honduras. (849)

VENEZUELA

Machinery for the manufacture of porcelains and ordinary crockery is of interest to a Venezuelan firm who intend to establish a factory in their city. Correspondence in Spanish. (850)

General hardware, machinery, silk and cotton textiles, paper, flour and foodstuffs are of interest as an agency proposition for Venezuela. (851)

COLOMBIA

Paper, stationery and office supplies. Quotations regarding same are requested by a prominent book store and stationery and office supply firm in Colombia. (852)

PERU

Iron beds and cots are of interest to a merchant in Peru. Correspondence in Spanish. (853)

URUGUAY

Apparatus for drying milk by vapor process is of interest to an inquirer in Uruguay. Correspondence in Spanish. (854)

BELGIUM

Shoe eyelets made of brass and steel are of interest to an inquirer in Belgium. (855)

Production and Sales Engineer

recently sales organizer and advisor for United States Navy and Army; graduate of Yale in Mechanical and Electrical Engineering, would like to enter large organization requiring competent and ambitious sales and advertising manager or assistant to chief executive where there is room for mutual expansion. Address, Engineer,

AMERICAN INDUSTRIES

50 Church Street, New York City

SALESMAN

with energy, ability and wide executive experience, traveled extensively in the United States, Canada, Alaska, South America and Europe, seeks connections with progressive substantial organization to become exclusive representative for any territory.

Would be willing to take any good proposition on a commission basis.

Would be agreeable to put in time in factory or in Eastern territory to qualify.

Have best of references.

Address W. F. R. Turner,

c/o American Industries,

50 Church Street,

New York City.

Foreign Directories

FOR SALE

1. South Africa—Complete directory of the Province of Cape for 1921-1922, including map complete list of Farmers, directory of business, alphabetical directory, towns directory, complete index, including The Transkei, East Griqualand, Pondoland, Tembuland, Bechuanaland and the South West Africa Protectorate. Original cost \$6.00. Selling price \$2.00, without postage.
2. South Africa—Complete directory of the Province of Natal, for 1919, including Zululand, Griqualand East and Pondoland. Complete list of farmers, alphabetical and business directories, also directory by streets, etc. Original cost \$5.00. Selling price \$1.50, without postage.
3. South Africa—Orange Free State Directory, including Basutoland, 1919. Complete Farmers' Lists for the whole Province. A map of the Free State is given with the book. Alphabetical, business, etc., directories. Original cost \$4.50. Selling price \$1.00, without postage.
4. Post Office London Directory with County Suburbs for 1922, comprising, amongst other information, official, streets, law, private residents, parliamentary, postal, city, municipal, clerical, conveyance, banking, commercial and trades directories, together with sections relating to the county suburbs. Also contains maps, and full details on commercial stamp duties, chambers of commerce, etc. Original cost, \$25.00. Selling price \$10.00, without postage.
5. Australia—Queensland Post Office Directory for 1920-1921, including Port Moresby, Papua (New Guinea) and Darwin, Northern Territory. Contains street directories of Brisbane, Bundaberg, Charters Towers, Ipswich, Maryborough, Toowoomba, Rockhampton, and Townsville. 1500 separate alphabetical directories of townships, boroughs, and districts. An alphabetical directory and a trade directory for all of Queensland. Original cost \$12.00. Selling price \$2.50, without postage.
6. Holland. Complete alphabetical and business directory of Holland, in two volumes. 1920 edition. Original cost \$9.70. Selling price \$2.00, without postage.
7. Directory of Spain for 1921 in two volumes. Contains complete alphabetical and business as well as street directories of all of Spain. Printed in Spanish. Original cost \$12.00. Selling price \$2.50, without postage.
8. Argentina. General directory of Argentina, in two volumes, with alphabetical and street guides, also separate headings for business, industries, professions, etc. 1920 edition. Printed in Spanish. Original cost \$14.00. Selling price \$4.00, without postage.
9. France. "Didot-Bottin" 1921 Directory of Paris in two volumes. Alphabetical and street directory, also directory of merchants, manufacturers, agents, professions, etc., under proper headings. Printed in French. Selling price \$3.00, without postage.
10. New South Wales Post Office Directory, 1921. This work contains street directories of both private and business names in Sydney and Suburbs, New Castle and Suburbs and Kest Maitland and Suburbs, with separate alphabetical directories of residents for over 2,000 townships, boroughs and districts. Alphabetical directory. A trade directory for the whole State together with ganking, legal, ecclesiastical, insurance, educational, medical, municipal and viticultural. A pastoral and agricultural directory and local and general official directories. Original cost \$16.00. Selling price \$4.00.
11. Ryland's Coal, Iron, Steel, Tin Plate, Metal, Engineering and Allied Trades' Directory of England with brands and trade marks for 1920. Original cost \$100. Selling price \$2.50, without postage.

ADDRESS: FOREIGN DEPARTMENT

National Association of Manufacturers
50 Church Street, New York City

ENGLAND

Machinery for making small cream containers of paper or fibre is of interest to a firm of London merchants. (856)

FRANCE

Machinery for the manufacture of excelsior for packing purposes, is of interest to a firm of machinery dealers in France. (857)

ITALY

Canned fish of all kinds, also canned goods generally, preserves, food products, relishes, etc., are of interest to a firm of food product distributors in Milan. (858)

Agricultural machinery of all kinds, particularly mowers, reapers, harvesters, rakes, tedders, seed planters, etc. The inquirers state they have had considerable experience in selling American agricultural implements in Italy and desire direct American connections. Correspondence in Italian or French. (859)

SPAIN

Steel of all kinds, Diesel type motors, pumps for raising water, illuminated advertising signs of newest systems and oils for Diesel and semi-Diesel motors are of interest to a merchant in Spain. (860)

Office supplies such as type-writer ribbons, carbon paper, sealing wax, office stationery and similar articles generally are of interest to a merchant in Spain. Correspondence in Spanish. (861)

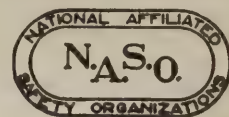
GREECE

Full equipment for the manufacture of alcohol for Greece. A firm of merchants in Greece inquires whether the former manufacturers of alcohol in this country would be prepared to sell their distilling apparatus; they are in the market for an equipment with a capacity of 2,500 to 5,000 gallons of Anhydrous alcohol in twenty-four hours; other equipment might also be of interest with a capacity of 1,250 gallons in twenty-four hours. Correspondence in French. (862)

Machines for mixing dental paste, collapsible tin tubes, and apparatus for filling and hermetically sealing the tubes are of interest to a firm of prospective manufacturers of dental paste in Greece. Correspondence in French. (863)

ALGERIA

Rotary dryers for drying seed and wine lees to recover alcohol; also evaporators for concentrating tartrate solutions for the manufacture of tartaric acid are of interest to an inquirer in Algeria. Correspondence in French. (864)



Safety Devices

Of the National Affiliated Safety Organizations

Comfort Safety Goggles—To protect eyes against flying dust, metal chips or glare of light.

Arc Welders' Helmets—To shield eyes against intense rays of the electric light.

Leggings—To protect foundry-men's legs against molten metal.

Shoes—To protect workmen's feet against molten metal.

Respirators—To prevent inhalation of harmful dust or fumes.

Knuckle Guards—To protect hands when wheeling barrows or trucks through doorways or narrow passages.

Ladder Feet—To prevent ladders from slipping.

Chip Guards—To protect eyes from injury by chips thrown from lathe tools.

Metal Danger Signs—Portable, for use in shop, yard or street.

Linen Danger Signs—Various warnings of danger, for attaching to sign boards or partitions.

Rules for Cranemen—For guidance of crane operators and others.

First Aid Jars—Emergency outfit especially developed for industrial use.

Stretchers—Sanitary metal stretchers which can also be used as cots.

Shaft Protectors—Spirally wound mailing tubes, to prevent injury to persons if their hair or clothing should catch on shafting.

The NASO Safety Devices were developed through the co-operation and at the expense of the associations comprising the National Affiliated Safety Organizations—the National Association of Manufacturers, 50 Church Street, New York City; the National Founders' Association, 29 LaSalle Street, Chicago; and the National Metal Trades Association, Peoples Gas Building, Chicago.

The NASO Devices are all sold at practically cost price, but any profits derived from sales are utilized for further research and development work along safety lines.

Information may be obtained from the Secretary of the National Founders' Association.

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IT COSTS ONLY
ONE DOLLAR A YEAR

If you are not already a regular subscriber, why not fill in the order opposite and have it come to you regularly for one year?

AMERICAN INDUSTRIES

50 Church Street, New York City

Please send me American Industries for one year, for which one dollar is enclosed.

Name _____

Address _____

City _____

State _____

LATVIA

Gelatine pill and capsule making machines, also coating machines for coating pills with gelatine are of interest to a firm of pharmaceutical manufacturers in Latvia. Correspondence in German. (865)

INDIA

Cutlery, buttons, bicycles and automobiles for India. A member of the National Association of Manufacturers submits an inquiry for the above, received by them. (866)

AUSTRALIA

Machinery for the manufacture of typewriter ribbons is of interest to a firm of merchants in Australia, who desire full details and prices f. o. b. New York or San Francisco with approximate freight to Sydney. (867)

Machinery for manufacturing split and pith ratan canes, plant for treating and spinning cocoanut fibre and machinery and equipment for manufacturing pearl buttons are of interest to a firm of traders in the Solomon Islands. (868)

Drafting Room Standards

Steel windows and doors are recognized as a great achievement in the building line. Although there are a great number in use, only recently has any valuable and helpful information been published.

The superiority of steel windows and doors is fast being recognized, and it is only natural that there should be a demand for helpful and instructive data.

The Truscon Steel Company of Youngstown, Ohio, who are staunch supporters of standardization and quantity productions which make for low cost when applied to steel windows and doors, volunteered to supply

the desired information in a portfolio called Drafting Room Standards. This treatise answers all the questions that architects and engineers can ask about steel windows and doors. It is indispensable and should be in every file. From time to time additional information will be supplied so that it will never grow old.

The portfolio consists of thirty-four sheets of beautiful architectural details drawn to scale and which are self-explanatory. Also there is a folio of complete specifications that cover practically every type of steel window and door. A copy of this portfolio can be obtained by writing directly to the Truscon Steel Company.

Rubber Manufacturers Organize

(Continued from page 18)

"And it is certain that even if all the rubber we are to use cannot come from territory under our own flag we surely can find sources of supply that will not be affected by the existing restriction act, now costing American manufacturers millions of dollars, which extra cost must of necessity be passed on to the consumer."

While several in attendance ex-

pressed the opinion that it might be possible to accomplish the desires of manufacturers through the Rubber Association of America if sufficient pressure were brought to bear, and that the formation of the new association would not be necessary, the idea was practically unanimous that the time had arrived for independent action and that another association should be formed.

RESULTS

Large and small manufacturers in America, who have advertised in EXPORT, have been able to secure more perfect distribution in the markets of the world, and to increase their foreign sales.

YOU CAN DO THE SAME

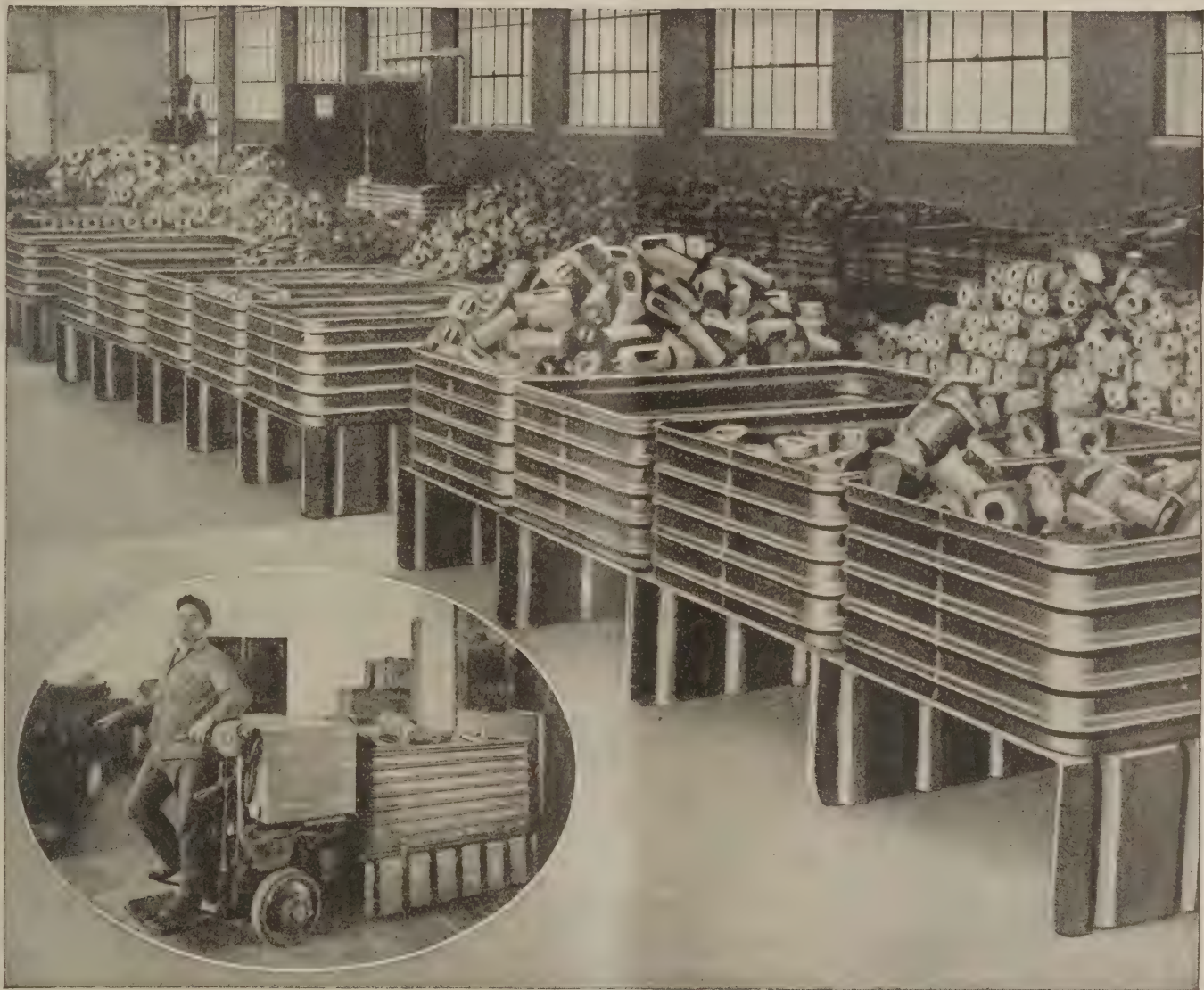
Requests for further information, rates, and service will receive prompt attention by addressing

EXPORT

50 Church Street, New York, N. Y.

Official International Organ of the
National Association of Manufactur-
ers of the United States.

Cut Costs of Handling and Conveying



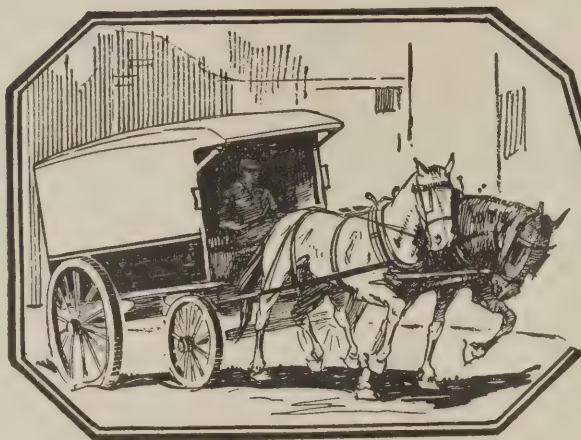
Truscon Alloy Steel Platforms and Boxes keep your material off the floor and make it cost less to handle the production of each machine in your shop. Whether you use lift trucks, overhead tracks, belt or gravity conveyors, there are types and designs to meet your requirements. Truscon Alloy Steel Platforms and Boxes are built for a hard, long life of continuous service.

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO.

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PLATFORMS AND BOXES

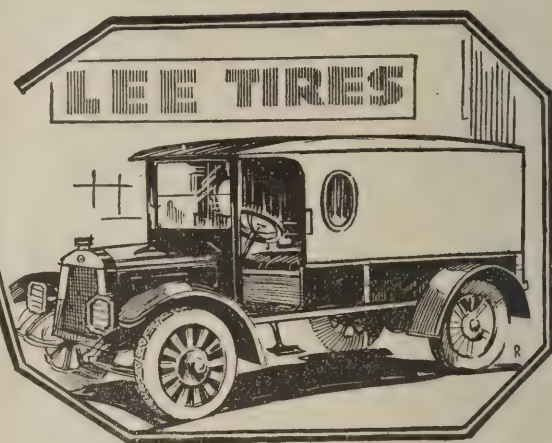
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Why did you change?



from this

to this



Both casing
and inner tube
are protected

To keep pace with modern methods—to meet competition—to better serve your clients? A HUNDRED REASONS WHY.

But bear in mind a chain is no stronger than its weakest link, and that your delivery car without Lee Pneumatic Puncture Proofs is less reliable than the old horse drawn vehicle.

Don't blame road conditions or the driver for punctures—the fault does not lie there. Put on Lee Pneumatic Puncture Proof Tires and eliminate these unnecessary delays—then you will know the truck will be back in time to take out another load.

Three layers of case hardened steel discs embedded in the carcass protect the tube and make puncture impossible. They are pneumatic tires with all the dependability of solid tires.

Lee Pneumatic Puncture Proofs are built in all sizes—from 30" x 3" to 40" x 8".

Write us, or visit the Lee dealer in your vicinity, and be convinced of what Lee Tires are doing for others.

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Let Us Make It For You

Our main plant has a most complete equipment, including batteries of presses and large die-making shops, for manufacturing pressed steel and deep-drawn steel work.

Numerous manufacturers will endorse our service.

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means all that is best in Pressed Steel. We have a complete organization, perfect in this class of work.

Our engineering force is always at your disposal. You will find that in the designing of your steel parts their advice and co-operation means a considerable saving, and at the same time produce a constant source of satisfaction.

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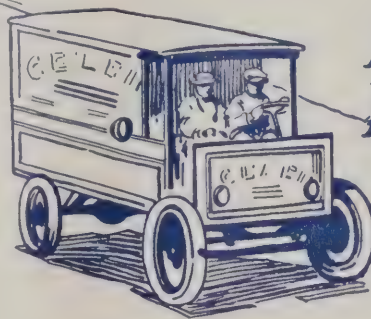
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Warehouses and Representatives in Principal Cities



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To the Printed Product



WE ARE direct-by-mail specialists. We start with the bare idea and mould it into printed circular letters, folders, house-organs and catalogs. Consult our Sales Promotion Department freely for ways to increase sales by direct advertising methods.

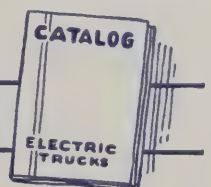
Baker Printing Company

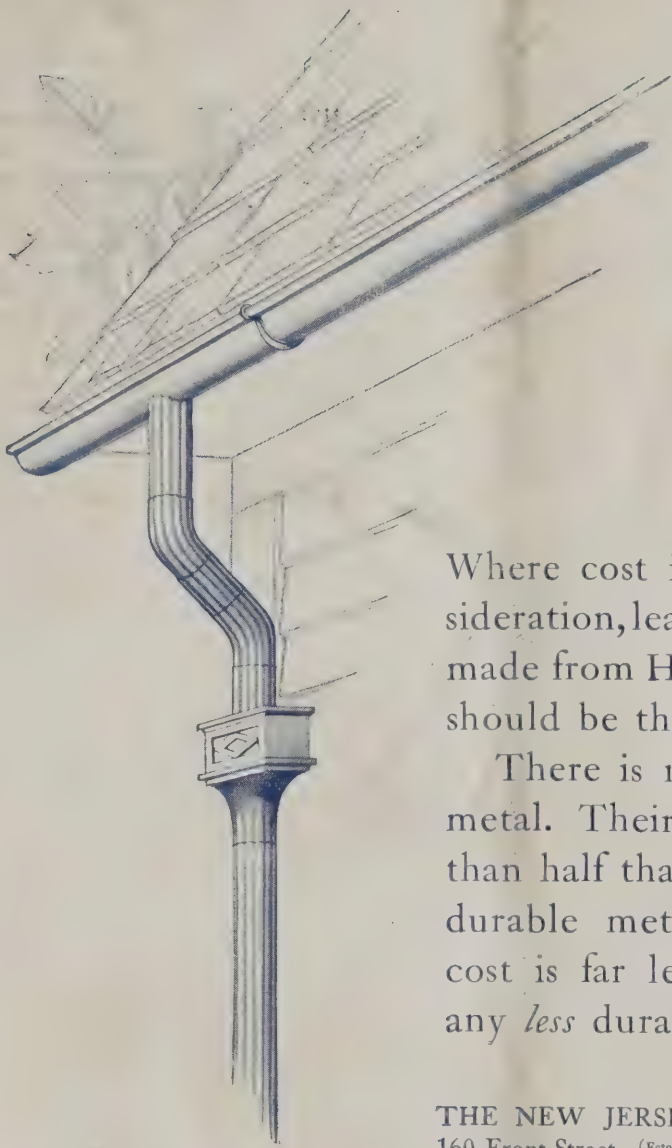
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Where cost is the first consideration, leaders and gutters made from Horse Head Zinc should be the first choice.

There is no *more* durable metal. Their first cost is less than half that of any *equally* durable metal. Their final cost is far less than that of any *less* durable metal.

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160 Front Street (Established 1848) New York City

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